VOL. 10
NO. 10

THE BRICKBVILDER

OCT.
1901

H. T. B.

THE BRICKBUILDER.

PUBLISHED MONTHLY BY

ROGERS & MANSON,

85 Water Street, Boston, Mass. . . P. O. Box 3282.

Entered at the Boston, Mass., Post Office as Second Class Mail Matter, March 12, 1892.

COPYRIGHT, 1893, BY THE BRICKBUILDER PUBLISHING COMPANY.

Subscription price, mailed flat to subscribers in the United States and Canada	$5.00 per year
Single numbers	50 cents
To countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE.

For sale by all newsdealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING.

Advertisers are classified and arranged in the following order:—

	PAGE		PAGE
Agencies.—Clay Products	II	Cements	IV
Architectural Faience	II	Clay Chemicals	IV
" Terra-Cotta	II and III	Fire-proofing	IV
Brick	III	Machinery	IV
" Enameled	III and IV	Roofing Tile	IV

Advertisements will be printed on cover pages only.

AMERICAN INSTITUTE OF ARCHITECTS.

THE American Institute of Architects held its thirty-fifth annual convention at Buffalo, October 3, 4 and 5. The attendance was large and enthusiastic and the address of the president, Robert S. Peabody, was certainly in line with the feelings of the members, and found a ready response. When we recall the slow growth of the first twenty-five years of the life of the American Institute and compare the disheartening apathy of those days with the strong, confident tone of the present, it is easy to appreciate how much the profession in this country has advanced. The Institute occupies a recognized and a high position in the community, and the service which architects can render to a community in meeting an opportunity such as was afforded by the Pan-American Exposition was very gracefully acknowledged by President John S. Milburn in his address of welcome.

This convention is of interest to the younger members of the profession in that it has so cordially acknowledged the position of the enthusiastic young architects and draughtsmen who are working so hard to make the junior clubs as well as the Architectural League a factor in their development. Mr. Peabody called especial attention to this and expressed the hope that the Architectural League of America might take the same relation to the Institute that the Architectural Association in London has borne so well with the Royal Institute of British Architects. He would have the Architectural League the center for class and club life, from which its older members, as they recognize that their turn is past, would naturally graduate to the Institute, and to their hands when the proper time comes he would gladly bequeath the American Institute, trusting that they would do far better than their predecessors, who have had no architectural leagues in which to prepare themselves for their work. And Mr. Peabody puts in a well-timed word for the relation between the head of a large office and his draughtsmen: "And when the head of it says 'I,' let us hope for his sake that he intends it as Admiral Dewey might, and let us not forget the men behind the guns, without whom the guns are powerless. And when the young aspirant for fame in a large office talks as if he were the nameless ghost whose spirit pervades all the successful work in the office, let us remember how long the Army of the Potomac vainly struggled and fought before Grant's master mind turned that same armed machine to victory."

The Institute has taken a very wise step at this convention in voting to invite the American Society of Civil Engineers to send to future Institute conventions a delegate who shall have all the privileges of the convention except the right to vote. This is entirely as it should be. Engineers are not architects, but architects have to be engineers occasionally, and certainly the paths of the two professions cross so frequently that there could be nothing but good result from coöperation between the two in the convention meetings.

The officers elected for the ensuing year are: President, Charles F. McKim of New York City; first vice-president, Frank Miles Day of Philadelphia; second vice-president, Alfred Stone of Providence; secretary and treasurer, Glenn Brown, Washington.

A CARNEGIE SCHOOL OF ARCHITECTURE.

A MAN with so many millions to dispose of annually as Mr. Carnegie might very easily develop a preference for founding new institutions rather than helping or amplifying the scope of existing ones. The libraries which his wise generosity has scattered so plentifully over this country have surely been productive of nothing but good in every sense, but we cannot fully sympathize with one of the latest announcements of his proposed endowment for a school of technology for the city of

Pittsburg. We are heartily in favor of technical schools as such, and there is surely nothing to be said against placing opportunities for technical education within the reach of every young man who is able to profit by it, nor will we undertake to set any limits upon the number or extent of such schools in as far as they teach the mechanical or engineering branches, but when it is intended to incorporate in their curriculum the study of architecture as a fine art we feel justified in entering a protest. The Carnegie School proposes to include a College of Architecture. In the commission which was appointed to consider the formation of the school there was apparently no one who can claim any special knowledge of the requirements of the profession, and we cannot believe that any one who is familiar with the present status of architectural education in this country would seriously advise such a department in the proposed school. Architecture is preëminently an art which is best studied by association with good architecture and with those who are most capable of creating it. We believe it would be absolutely impossible to create a successful school of architecture without an architectural setting and without the influences which can be acquired at their best only in the most favorable localities. That is precisely why our young men every year and in increased numbers go to Europe to study. And that is why in our judgment Mr. Carnegie's money could be employed to far better advantage in helping to build up the existing centers of architectural studies rather than in attempting to create one out of hand.

It would be years under the most favorable circumstances before a school of architecture in Pittsburg could for a moment compare with any one of the four or five leading schools of architecture in this country at present existing. It is not necessary nor desirable that there should be a multitude of scantily educated, partially equipped architects, but it is most highly desirable that there should be a high standard and that the best should be cultivated to the greatest possible extent. The standard is surely set by the highest and not by the average. London in the seventeenth century profited far more by one Sir Christopher Wren or one Inigo Jones than it would have by ten thousand architects of mediocre ability. A general diffusion of architectural training is by no means a matter of prime necessity. We must educate the type rather than increase the area of the planting bed, and for these very reasons we believe that the attempt which Mr. Carnegie is fostering at Pittsburg with undoubtedly the best motives in the world is a mistake and is likely to do more harm than good. It is not a kindness to a young architect to encourage him to be content with anything but the best or to lead him to think that anything but the best will answer his need. There surely is abundant opportunity for increasing the effectiveness of our present schools without diverting that help into new and untried channels.

STRIKES.

THE iron trade has just emerged from the struggles of a strike. We are threatened with similar complications in other departments of the building industries. In New York the condition of struggle between the mechanic and the contractor is almost chronic. All these conspire to produce an increased cost of production and at the same time a diminution in the quality. But our condition, though deplorable from an economic standpoint, is immeasurably more satisfactory than that which prevails in England, if we may judge by a very thoughtful article on the subject in a recent number of the *North American*. Trade unionism in Great Britain has killed the glass industry, is strangling the cement industry, has driven shipbuilding out of several locations, and has made it in many localities impossible for English producers to compete with foreign trade. The mechanic has by far the upper hand in England and he uses his power unsparingly. Here the relations between the mechanic and builder though sometimes strained are on the whole very amicable, and in Boston there has for years prevailed the utmost harmony between the masons and the master builders. All disputes have been settled without strikes, and in the rare cases when appeal has been taken from the arbitration boards the decisions have been accepted by both sides in a spirit which speaks well for our American mechanics. We have strikes in plenty, but notwithstanding it all we believe conditions here are improving, notwithstanding the retrograde motion which seems to characterize conditions abroad. It is our intention in a subsequent issue to present a statement of the manner in which disputes are settled in this country between the masons and the master builders, believing that such statement will be of interest to all our readers.

PERMANENCE IN BUILDING.

ONE of the daily papers a short time since with its usual weak logic published an editorial against building for all time, reasoning that because condemned and half worn out locomotives or machinery should be promptly discarded and substituted by the latest approved inventions, the same rule would hold good as to buildings, and that therefore to put up a great hotel, office or business building with the idea of so constructing it that it will last for centuries is in all probability to make a serious mistake from an investment point of view. The argument is entirely a specious one. We are not troubled in this country with building too well; our trouble is rather that we build too poorly and take too little account of both practical and artistic necessities. We will venture the broad statement that very few of the buildings which have been torn down in the last quarter century and replaced by what we are pleased to term modern up-to-date structures would not have been removed if they had been constructed in what would have been termed at the time of their erection really first-class manner. The trouble is that only of recent years has architecture risen to the dignity of an educated profession, and the buildings which have been torn down have been almost without exception structures which were erected without intelligent architectural planning or supervision. There are of course instances where a small building had to make way for a large consolidation of interests, but that is not due to the building being necessarily out of date either in plan or construction, and our contemporary need have no fear that we will build too well.

Old English Brickwork. III.

BY W. G. HORSEMAN AND HENRY TANNER, JR.

ENGLISH brickwork underwent a complete change in treatment about the middle of the seventeenth century, chiefly owing to the introduction of soft bricks commonly called "rubbers," that is to say, a brick capable of being easily cut or rubbed to any desired shape or size after being burned in the kiln.

In most buildings anterior to this date the moldings and other details were of necessity executed with the ordinary molded brick, which was shaped or molded before burning in the kiln, a method which produced a durable brick, but also one which entailed much expense in cutting to any desired shape and thus greatly limited their use.

The manufacture of a brick which could be cut or carved *in situ* was a great factor in promoting the use of brickwork, even in buildings of the most ornamental character, and once again we find it used in the place of stone for the dressings and other architectural adornments, as well as in its original position, the plain wall.

Amongst the earliest example of its use in this manner may be cited the old house in Great Queen Street, near Drury Lane in London, and the charming old Pocock School building at Rye in Sussex. Both these buildings are designed with orders, and the limitations of brickwork are frankly acknowledged, particularly in the latter where all the moldings are of rubbed brick adapted to suit the material. The order is Tuscan, the frontage being divided into five parts in two stories, the pilasters and their pedestals running through these with the entablature breaking round, and an attic story above treated as three dormers with pediments over.

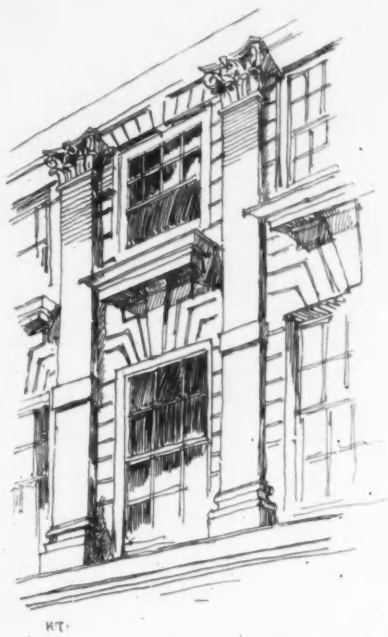
RAYNHAM HALL, NORFOLK.

The work is coarsely jointed and perhaps somewhat rudely executed, but the different members of an ordinary Tuscan order are all suggested. The arches over the windows are straight brick ones channeled to form *voussoirs*. The building was erected about the middle of the seventeenth century.

POCOCK SCHOOL, RYE.

The house in Great Queen Street was probably built about the same time, and was designed by Inigo Jones and either executed by him or his pupil and successor, John Webb.

It is much more orthodox in character, though not so complete a specimen of brickwork, the moldings and entablature being formed with plaster and wood. The order is Corinthian, comprising the first and second floors, the ground floor being treated as a basement. The frontage is divided by brick pilasters into five bays; the ornaments of cut brickwork above the first floor windows are curious features, taking the place of the usual apron.



NO. 9 ST. HELENS, BISHOPSGATE.

The tiled roof springs directly off the cornice without either balustrade or blocking course, and is well broken up by the five very simply designed dormer windows which have hipped tile roofs.

An extremely fine brick house dated A. D. 1646 and the design of which is also ascribed to Inigo Jones existed until recently, facing the old church of St. Helens Bishopsgate in the city of London.

The general design of the front is much the same as the Great Queen Street example, but in this instance the whole of the brick walling between pilasters and windows was worked with channeling, as well as the arches over the ground, first and second floor windows which were channeled into *voussoirs;* the central *voussoirs* were extended up to the underside of the brick cornices and those of the first floor windows to the underside of the second floor window sills which were well and elaborately worked in molded brick. A third floor of much later date had been added to this house.

Raynham Hall in Norfolk was one of the later works of Inigo Jones and is built of brick with stone dressings, with the exception of the center of the garden front, which is entirely of stone.

This illustration shows the entrance or west front with the two wings which project about ten feet from the main frontage. The whole building is a little

unusual in character, the frieze with its flat baluster-like ornaments, the broken curved pediment in the center feature with the pediment growing out of it and the curved gables on the wings with the pediment over, which remind one forcibly of the west front of one of the early Italian Renaissance churches with the scrolls at the sides to hide the flanking aisles.

The grand flight of steps up to the entrance doors adds greatly to the effect and the dignity of the whole composition, which, viewed from the front looking up the hill with the combination of red brick and stone and the background of green trees, is as pretty a picture of English domestic architecture as one may wish to see.

The house is very solidly built, some of the walls being over four feet thick. The plan of the house is a simple one, the entrance leading to a large hall with reception room surrounding and opening off it, the salon being at the back, opening on to the east front, the curious feature of the planning being that although there are staterooms on the first floor there is no grand staircase.

The school of architects immediately following Jones, his kinsman Webb, Marsh and Gerbier, all did work directly inspired and very similar in style.

The Vyne, a house near Basingstoke, already referred to, was enlarged by additions designed by Webb, who used brick for the wall, with stone dressings.

The brickwork in this house is relieved by diamond patterns formed by using vitrified headers, a very effective method, and which is to be found all through the eastern counties. In many old houses in Hertfordshire, when the brick walling is in Flemish bond, all the headers are in vitrified bricks.

Perhaps the effect when first erected was rather spotty, but now that time has toned down the material the result is charming.

Though in London and the districts where Inigo Jones's immediate influence made itself felt, architecture was assuming a more scholarly and grammatical form, still in other places only a faint glimmer of the coming Renaissance was in evidence and the classic feeling was long in penetrating to the more remote districts.

In such buildings as Sustead Old Hall near Cromer in Norfolk these indications of the coming revival made themselves evident, for although the character of the gables is distinctly earlier, yet in the brick quoins, the chimney and the pediments over the second floor windows, and the rude frieze over those of the first floor, the influence of the classic revival is evident. The windows of ground and first floors are insertions of a later date than that of the main building, which was erected A. D. 1663, shown by the iron lettering in the gables.

The original openings were larger, and probably brick mullioned, as in one at the back of the house which still exists. This very interesting example of a transition stage is now unfortunately quite a ruin, and soon will have to be numbered among the buildings of the past, buildings that exist only in name and in archæological records.

To study rubbed brickwork in its perfection it is necessary to examine closely the work of Sir Christopher Wren, who introduced the use of fine jointed work in the reign of Charles the Second, and used it to a very large extent, both for wall surfaces and moldings, frequently in combination with Portland stone, the two materials forming a beautiful and harmonious contrast, the one of a rich and varied red and the other of a silver gray.

The entrances to the Middle Temple Lane, London, and the one from Newgate Street to Christ's Hospital, London, recently taken down and rebuilt at the New School buildings near Horsham in Sussex, are good and typical examples.

Further examples here illustrated are the entrance to Kensington Palace and the very charming church of St. Benet in Thames Street, both in London and both the work of Wren. St. Benet's Church is particularly good. The angles of the main building and tower are emphasized by slightly projecting pilasters formed with alternate bands of courses of stone and brick. The carved swags over the windows are executed in brickwork.

The old house formerly at Enfield in Middlesex was also a notable example of this kind of brickwork. The portion here illustrated gave access to a flat near the first floor level between the projecting wings, and as will be seen from the details, the work was well and carefully carried out. When the house was demolished some years ago the central portion was carefully preserved and is now to be seen in the South Kensington Museum, London.

The gate piers of Lindsay House, Lincoln's Inn Fields, London, probably the work of Inigo Jones, and those of Hampstead-Marshall are good instances of rubbed brickwork.

The use of rubbed brick was continued throughout the whole of the eighteenth century for the construction of window jambs and arches, doorways, etc. The doorway here illustrated is taken from a large house, the front of which is entirely in this method of building, in the King's Bench Walk, a part of the Temple, London.

Side by side with the use of rubbed brickwork in such profusion we find in the humbler buildings molded bricks being again used in forming the dressings and other architectural embellishments.

The old house here illustrated at Basingstoke in Hampshire is a good example. The brickwork of walling is rather rough; the bond and vertical joints are not very carefully kept. The brick architraves to the windows, the cornices and eaves are formed with molded bricks roughly cut and with rather wide joints to the required sizes; yet the effect of the whole gable end is very charming.

The bricks used in the walling measure 8¾ long by 4⅝ wide by 2¼ deep. The side of the house abutting upon the street has been rebuilt at a later date.

Chelsea Hospital, London, is a well-known building and deservedly so, designed by Wren. It was founded by Charles the Second as an asylum for aged and disabled soldiers, and is so used at the present time. The main building is planned on a large scale, with a central block and two boldly projecting wings ranging in height with this. A central hall gives access to the chapel and dining-hall on either side. These two apartments have tall circular-headed windows of great size, the jambs of which are executed in carefully rubbed brick. The wings are three stories in height, with square-headed windows, rubbed brick being again used here for the arches

and dressings. The whole is crowned by a large and well-designed wooden cornice, from which springs the high-pitched slate roof, which is pierced by dormer win-

WISHFORD.

dows. The chimney stacks form a very important part of the general design, rising high above the ridges everywhere. They are square in outline with strongly paneled facings. The lodge's outbuildings and old garden walls surrounding this fine block of buildings are worth more than passing notice.

The center turret, being of stone, does not come under the heading under immediate discussion. It is particularly well designed and adds greatly to the appearance of the building.

Wren also prepared designs on a large scale for additions to Hampton Court Palace, of which, however, only

SUSTEAD OLD HALL.

a small part, the court at the southeast corner, was carried out. The work was begun A. D. 1689, and the materials employed are Portland stone and red brick of a most beautiful color. The design is simple and dignified. The ground-floor story forms a basement, and is lighted by segmental-headed windows. The state apartments are placed upon the first floor, have large square-headed windows over which are the circular windows of the next floor, and above these are the square windows of the uppermost rooms. The whole is crowned by a stone cornice surmounted by a blocking course and balustrade which conceals the roof from view. Here again as at St. Benet's Church the angles of the building are marked by slightly projecting pilasters which are constructed of equally deep alternating bands of stone and brick.

The banqueting house attached to Kensington Palace, London, is an extremely fine example of cut and rubbed brickwork, although of course of much later date than the above mentioned examples, as it was probably designed by Sir John Vanbrugh early in the eighteenth century. The cut and rubbed brickwork of the square

THE ENTRANCE, KENSINGTON PALACE.

and circular columns of the center bay and the tall window reveals or curved splays on the south side are worth notice.

Tyttenhanger House, near St. Albans in Hertfordshire, built A. D. 1654 by Sir Henry Blount, is a good and complete example of a country house completely executed in brickwork. It is planned with a central block and two wings and is three stories in height.

A flat brick band is carried round the building at the first floor level. The molded underside of this band breaks round the head of architraves of windows of the ground floor. The first-floor windows have brick aprons under their sills springing off this brick band, and these windows also have pediments as well as architraves in molded bricks. In the case of the wings these pediments are pointed, but in the center portion they are alternately circular and pointed. Above these windows are those of the second floor, which also have molded brick architraves. The angles of the walls have brick quoins projecting beyond the face of brick walling.

ST. BENET'S CHURCH, THAMES STREET, LONDON.

this moat, the piers and gates on the house side being very fine specimens of their class.

The house itself is an almost perfect example of the medium-sized country houses of this period, which are to be met with throughout the whole of the southern and midland counties.

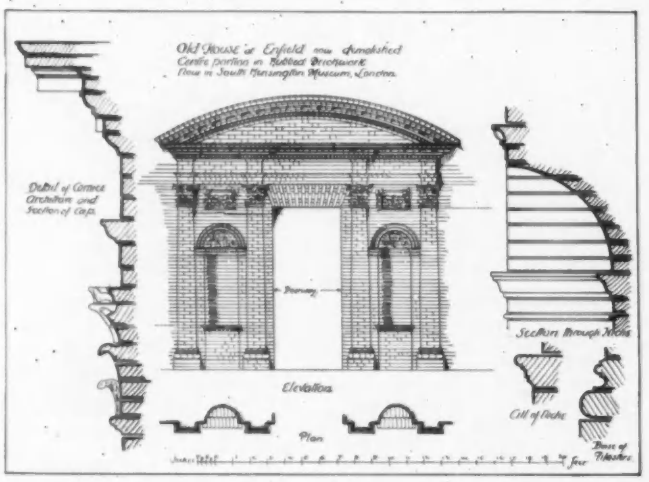
The entrance front here illustrated is very simple and broadly treated, but the mellow tone given by time to the old brick walling, the boldly hipped tile roofs, combined with the tall and characteristic chimney shafts and the beautiful setting of the whole house with its ancient gardens, make an impression upon the mind which is not easily forgotten.

Of the same type of house, and about the same age, is the old mansion of Moyles Court near Ellingham, upon the western borders of the New Forest in Hampshire. A flat brick band marks the level of the first floor, and the angles of the wings are emphasized by the same alternate long and short brick quoins as noted at Tyttenhanger and Groombridge. The house is additionally interesting to some as being the home of Lady Alice Lisle, the widow of one of Cromwell's officers, who gave food and shelter to two of the Duke of Monmouth's adherents after the battle of Sedgemoor. For this Lady Lisle was arrested and tried at the Winchester Assizes and condemned by Judge Jeffreys to be burned alive. James the Second, however, altered the sentence to that of beheading, and she was accordingly thus executed at Winchester in A. D. 1687.

The whole is crowned by a boldly projecting coved cornice, and the tiled roof springs directly off this.

The chimney stacks are massive and well designed; they present a variety of the paneled stack before referred to.

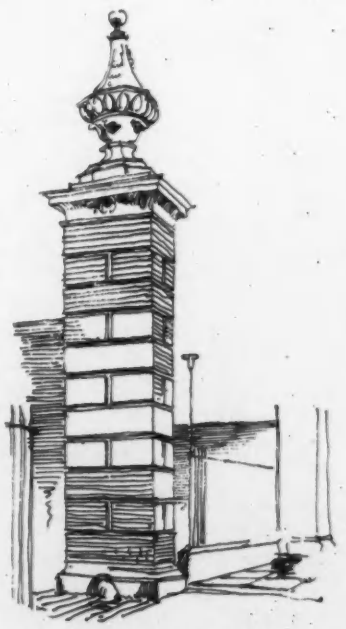
Groombridge Place, near Tunbridge Wells in Kent, is somewhat later in date than Tyttenhanger House. It is built upon the site of a mediæval house, of which the walls enclosing the large and ancient moat still exist. The present house is approached by a bridge over



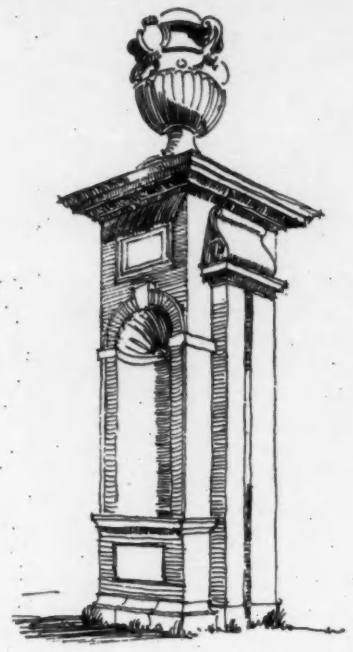
Up to nearly the end of the seventeenth century, except in some isolated cases, the small country houses generally present the same appearance as the three houses (Tyttenhanger, Groombridge and Moyles Court) above mentioned. The roofs of the projecting wings were either gabled or hipped back, and the walls finished under the eaves with a large coved cornice as at Tyttenhanger House, or by the tilting rafters showing, and these being shaped on their undersides formed a modified kind of modillion cornice as at Groombridge, or a cornice of molded bricks off which the roof sprang, as at the almshouses, Flamstead, and Mackeraye End House in Hertfordshire. But as time went on the boldly projecting wings, which were a survival from the early type of quadrangular house, became less pronounced in projection, until at last a mere break forward in the walling was the last surviving mark of these once important features, and in the smaller country house even this was omitted and the house became very square in form.

The brick quoins at the angles, which are such striking features, gave way to stone quoins, generally much smaller in size, and the walls were often finished with an elaborate modillion cornice constructed in wood, off which the roof directly sprang. The flatness of the front was relieved by a slight bringing forward of the wall in the center, in which the entrance door was usually placed, and this projection was carried up to the roof, the cornice breaking round it, the upper cornice members being sloped upwards to form a small, flattish pediment.

The Moot House at Downton near Salisbury is a good example of this treatment, and may be taken as the type of design adopted for country houses during the first half of the eighteenth century, after which the craze for erecting houses as much like a Greek or Roman temple as possible, adorned with enormous porticoes and orders of great scale, fairly set in and rendered the further employment of brick an impossibility in country



GATE PIER, LINDSAY HOUSE.



GATE PIER, HAMPSTEAD-MARSHALL.

houses, as these structures had either to be built in stone or of brick plastered over the plaster face, being marked out with sham joints to imitate stone if the expense of masonry were too much.

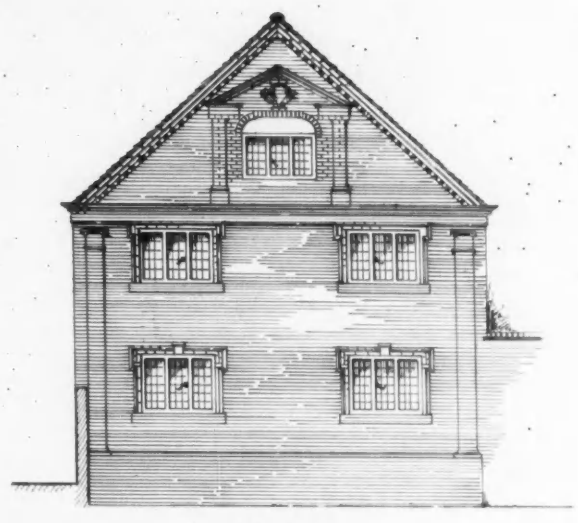
Fortunately, however, this craze was not generally adopted in the building of small rural houses or those in the towns until quite the end of the eighteenth century, when in nearly every case in which brickwork was used for the construction of the walls it was entirely hidden from view under a thick coating of plaster, and this method of building was carried on until under the influence of the Gothic revival brickwork once again was used honestly and well. The consideration of this, however, does not come within the scope of the present article.

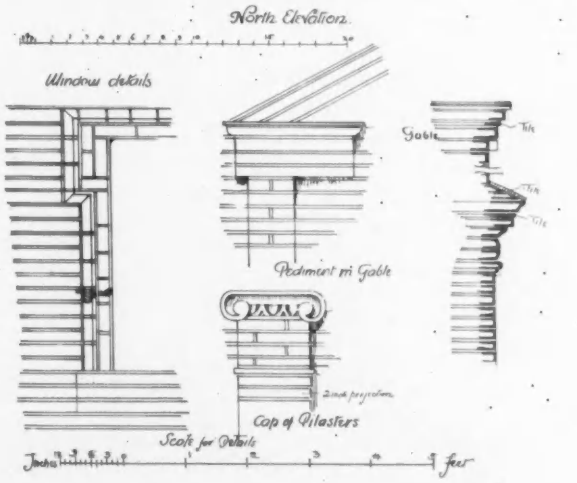
Another innovation which materially altered the character of English brickwork toward the end of the seventeenth century was the introduction of the sash window.

Up to this period the windows had been constructed with solid oak mullions and transoms, which in themselves were amply strong enough to carry the weight of the walling over without the assistance of an arch, which was very often omitted, especially in the eastern counties, as illustrated in the example given in the last article from an old house at Trowse near Norwich, in which the splayed or molded bricks of the jambs are merely carried across and supported upon the head of the window frame, the great strength of which effectually prevented the possibility of fracture or settlement of the walling over.

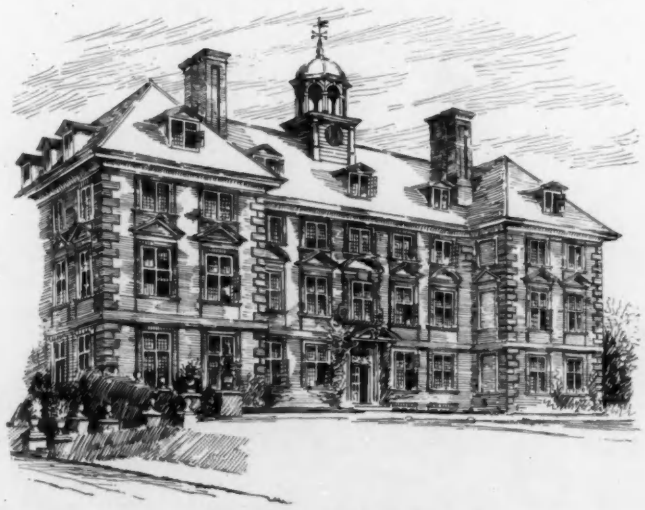
Brick relieving arches were sometimes employed, as shown in the illustration of a part of the Deanery at Winchester, where they are elliptical in form; but the effect generally when arches are used is not so good as the simpler way of finishing the window openings as described above.

With the advent of the sash window the hollow frames of which were incapable of sustaining any great weight





OLD HOUSE AT BASINGSTOKE. DETAILS OF NORTH GABLE.



TYTTENHANGER HOUSE, HERTS.

the employment of brick relieving arches to carry the walling over the head became an absolute necessity. These arches were often executed in cut and rubbed bricks; a slight camber or rise was often given to the soffit in order to deviate the appearance of dropping in the center which an absolutely flat soffit of large span sometimes had.

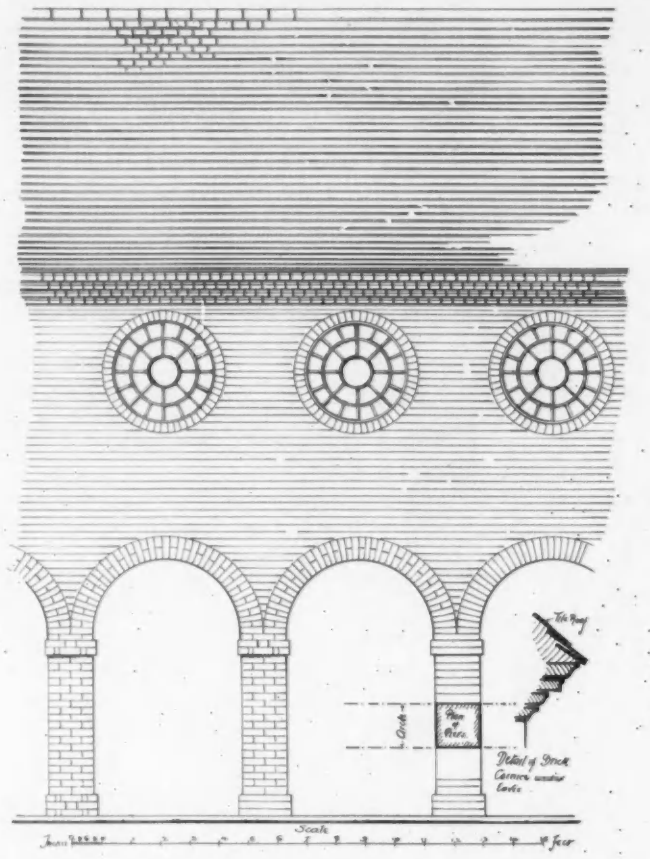
In buildings of large scale the use of sash windows did not at present materially detract from the appearance, as, for example, the window openings of Hampton Court Palace and Chelsea Hospital, where the openings

NETHERHAMPTON.

are tall in comparison to their width, a very necessary essential in the design of windows constructed in this manner; but in the smaller domestic buildings, when the necessary height could not be obtained, the effect is very poor when compared with the mullioned and transomed windows they displaced. For instance, the mullioned and transomed fenestration of Tyttenhanger House, Hertfordshire, is very charming, but it would be difficult, if not impossible, to have obtained as good an effect with the later type of window on account of the low proportions of the openings upon the second floor. For these reasons probably we find that the mullioned windows were still much used in the smaller buildings until quite the end of the eighteenth century, and in some instances side by side with the sash window as shown in the illustration of Moyles Court in Hampshire, where, however, the sash windows in the projecting wings appear to have been inserted in the old openings early in the eighteenth century.

There is much good brickwork of late seventeenth and the eighteenth century date to be found in Cambridge.

St. John's College has already been referred to, and of other instances St. Catherine's College may be mentioned here. The buildings are grouped around three sides of a square and are three stories in height. The materials employed are brick for the wallings, and stone dressings for doorways and windows.



FROWDE ALMSHOUSES, SALISBURY. DETAIL OF GARDEN FRONT.

The Frowde Almshouses at Salisbury present much of interest to the student of brickwork. The garden front here illustrated is a very effective, if rather plain, piece of design.

The long range of piers and arches, seventeen in all, forming a kind of cloister walk, giving access to the ground-floor rooms, is very charming in its effect of light and shade.

The circular windows over these arches light a long corridor on the first floor, into which all the upper rooms open.

Many houses around the Cathedral Close in the same city, particularly the choir school, are worthy of study.

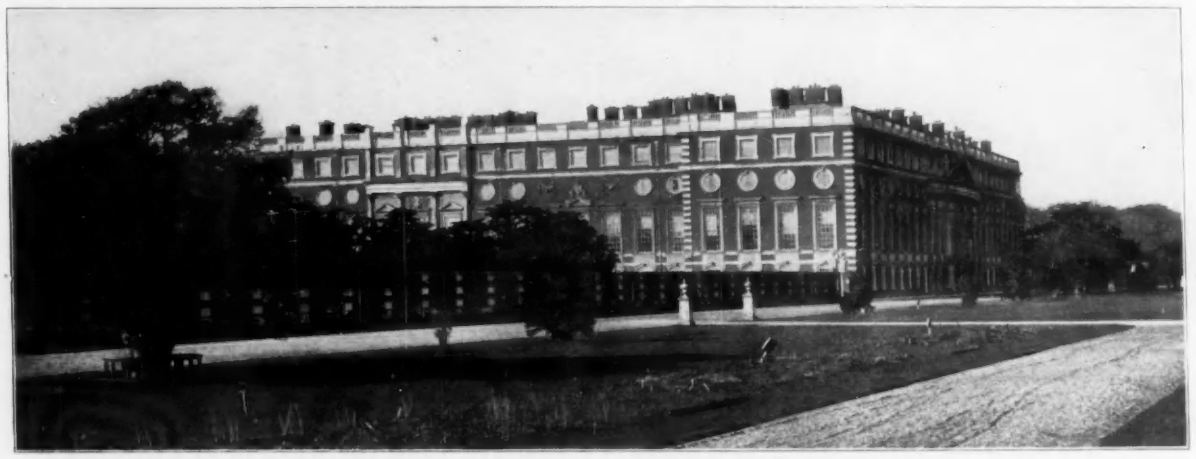
At Guildford in Surrey are many fine brick houses of eighteenth-century date.

The old town of Blandford in Dorsetshire was entirely rebuilt early in the eighteenth century, after being destroyed by fire, and most of the existing houses are built of brick of this date.

In London and the district round, brick from the first date of the introduction had always been a favorite building material, and after the great fire which occurred A. D. 1666 most of the houses and shops were rebuilt in this material, and in spite of the changes

DOWNTON MANOR HOUSE.

necessitated by modern ideas there are to this day numerous examples of late seventeenth and eighteenth century still standing in much the same state as when newly finished.



HAMPTON COURT PALACE.

The block of buildings called the Temple, London, afford many instances for study. New Court, a quadrangular block, was built in A. D. 1677, — the buildings are four stories high, with brick bands of slight projection marking the levels of the floors between the windows, which have flat arches and jambs in cut and rubbed brickwork, — and in King's Bench Walk are many doorways in this material, one of which is here illustrated.

The increase in trade and the consequent converting of houses into offices and shops in the city drove the wealthy trades and merchants into the suburbs where they built their houses, and it is perhaps here can still be found the best specimens of eighteenth-century brickwork.

MOYLES COURT, RINGWOOD, HANTS.

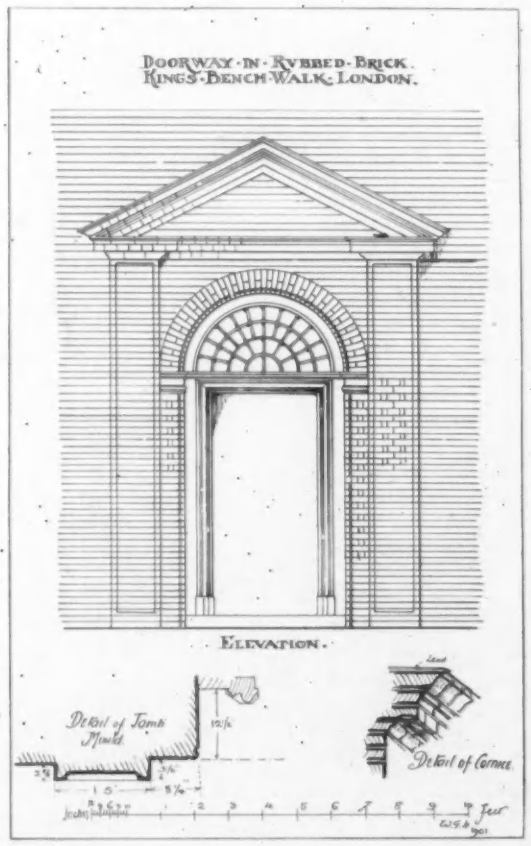
Highgate and Hampstead, then villages on the north side, abound in brickwork of this period, and Fulham and Putney on the west at one time closely rivaled them as residential resorts. At Richmond in Surrey and in

the neighboring parish of Kew many fine old eighteenth-century brick houses are still remaining.

Maid of Honor Row at Richmond is a good example of a Georgian terrace, while at Kew many old houses of this date are grouped round the green.

GROOMBRIDGE PLACE, KENT.

In such a short review of a very extensive subject it is impossible to do full justice to the later periods which abound in beautiful examples of typical English brickwork which deserve to be treated more *in extenso*, but



the foregoing articles give a general idea of the gradual development of brickwork in England from the time of the introduction by the Romans, with examples of all the types of importance.

External Color at the Pan-American.

BY CHARLES H. CAFFIN.

THE buildings at the Pan-American are constructed of staff and have been treated with external color. The analogy of this with the use of colored terra-cotta was so complete that it suggested itself as a subject that might interest the readers of THE BRICKBUILDER. I propose to treat it under the three heads of what we looked for, what we found, and what we missed.

I am writing this in New York with special reference to its clear skies and freedom from smoke. Yet, if the introduction of color into architecture is desirable under such conditions, it must be even more so in cities where the atmosphere is less clear, provided the color is such as not to be unfavorably affected by the smoke and damp; and for this purpose colored terra-cotta from its impermeability seems to be eminently suitable. It has other qualities that recommend it, — lightness, toughness and non-combustibility, — so that how far it may be made to contribute to color also is a practical consideration.

The problem is surely one of construction rather than of decoration. At least that is the aspect of the matter uppermost in my mind, — the building in color rather than the enlivening of the structure afterwards with spots of embellishment. No modern city presents more charming features of color than Paris, and the foundation of it is the Caen stone so generally used in building, which can be cut almost like cheese and then hardens by exposure and takes on a delicate gray tint that composes, as if an artist had arranged it so, with the normal color of the sky; forming, also, a background of subtle neutrality to the accidental notes of color in awnings, shutters, flowers, and to the prevailing green of the innumerable trees. This gives a general local color to the city that one readily recognizes and carries away in one's memory as altogether characteristic. Such a uniformity of impression is not to be looked for in American cities. In them the prevailing note is individualism; it is the pith of enterprise and will inevitably make itself felt in the architecture, so that any consideration of colored exterior must look not to uniformity of effect but to separate action.

It was this that raised one's anticipation when it was announced that color was to form an important integral part of the *ensemble* at Buffalo. For it was felt, not unreasonably, that both the occasion and the circumstances would warrant and make possible some very notable contributions to the solution of the problem. The occasion was one of festivity which would permit a generous application of color, while the temporary life of the buildings would justify an adventurous spirit of experiment. Even if enthusiasm should overstep the limits of discretion, the structures would not remain to plague their inventors as in general practice, where an architect may well hesitate to go far in experiments the value of which he cannot truly estimate until it is too late to alter the results. But at Buffalo the designer's imagination might have been allowed to swing freely. Let us see how far the opportunity has been grasped.

As one approaches from the south, the eye is first arrested by the blue dome of the United States Govern-

HORTICULTURAL BUILDING.
Peabody & Stearns, Architects.

ment Building and by the pyramid of red roofs and pinnacles that surmount the Horticultural Building. These are emphatic notes of color against the sky and whet one's anticipation of a pronounced scheme of color to follow. We hasten towards the Triumphal Bridge, eager to view the color *ensemble* of the "Rainbow City," concerning which so much had been written in advance. But where is it? There are two more blue domes, other red roofs, there is a good deal of color also on the Temple of Music immediately on our left which we shall examine later, but where is the architectonic scheme of color? Where indeed is there any definite suggestion of color except in the details before mentioned? The *ensemble* is certainly not white, neither is it colored in any sort of significant manner. It has, in fact, a suggestion of innocuous neutrality, except for the Electric Tower which is ivory white with details of green-blue and gold.

Gradually it dawns upon us that our expectation must be modified; that instead of an *ensemble* we must look for detail; that instead of a scheme of color we must fall back on separate features of decoration. The realization of this makes one a little more critical regarding the objects that first attracted attention and were for the time accepted provisionally—the blue domes and red roofs. It is recalled that the architectural style adopted is free Renaissance, particularly the Spanish-Colonial brand, and that a feature of Mexico, the country of splendid domes, is the use of majolica in some of them. And with that thought in one's mind, how dry, lusterless, unvibrative is the blue of these domes! without any beautiful quality of hue or suggestion of structural material—in one word, painty. Equally the red roofs fail to supply illusion of burnt clay; the color being uniform and heavy, with none of the subtle variations and vivacity of color that red tiles yield. To be frank, these features indicate the work of a painter rather than of an architect; of one who thinks in surfaces rather than in materials of construction.

Let us turn, however, to the massing of decoration over certain parts of the buildings. Here we shall find a much more architectural feeling. A very successful example is the main portal of the Horticultural Building, designed by R. S. Peabody of Peabody & Stearns.

ETHNOLOGICAL BUILDING.
George Cary, Architect.

This entrance, surmounted by a flat gable, is round topped, with a series of ornamental bands supported upon little columns, decorated with raised ornament on a blue ground. Over the arch is a cartouche with supporting figures and scroll work in relief, colored blue, green and yellow. On each side is a panel, blue ground and white raised figures, quite Robbia-like in feeling, and below them are two groups of sculpture, naturalistically colored. With the exception of these last the ornament is Renaissance. In the side pavilions loggias are introduced, the vaulted ceilings of which are decorated with signal success after the *Villa Madama*. Indeed the whole of the colored decoration of this building is exceedingly pleasant, rich even to profusion and yet controlled by excellent taste. And the same is true of almost all the principal entrances, notably those of the Machinery and Electricity Buildings. Both of these are by Green & Wicks and, were we discussing the architecture, it would be pleasant to dwell upon the combined sprightliness and dignity of these two very charming structures. But it is with the decoration that we are concerned, and that is massed around the different portals and colored with a bold use of primary tints that merge in a very agreeable harmony. The eaves also are very effectively treated with an imitation of timbers and carved woodwork, that really suggests the material, the dark brown being picked out with bright color.

There is an instructive lesson in the color deco-

SOUTH ENTRANCE, MACHINERY BUILDING.
Green & Wicks, Architects.

WEST ENTRANCE, LIBERAL ARTS BUILDING.
Shepley, Rutan & Coolidge, Architects.

ration of the Temple of Music. An attempt has been made to secure vivid emphasis by the introduction of red, but its interrupted use in patches deprives it of any constructive value. With the exception, however, of this building, two very crudely colored band stands close by and sundry groups of sculpture, intended to simulate bronze but more suggestive of chocolate, the colored decoration is very agreeable and in some cases extremely good in detail. But it is detail.

What we miss is any definitely intelligible scheme of color. Only to a very limited extent has the color been used structurally as an intrinsic part of the design; instead, it has been applied almost entirely as extrinsic ornament. Herein is the disappointment, for ornament is not architecture, more particularly in the case of the huge buildings which have become a feature of American cities. In these the problem is, or ought to be, essentially one of structural design, to which the embellishment bears but a very insignificant relation. Without any, the building may still be very attractive, while no amount of embellishment will disguise or atone for a poverty of construction. We had hoped, therefore, to see at Buffalo an attempt to build in color. Perhaps the architects will assert that they have made it, for certainly the buildings are not white. But just as certainly they give no definite impression of color. In their pale buffs and drabs they are, as I said before, innocuously neutral; whereas we were justified

in expecting some more or less adventurous essay in constructional color.

The treatment of the Electric Tower will illustrate my contention. The structure itself is very majestic and it rises among the other buildings with a certain exclusiveness, for it does not follow the Renaissance type. Indeed, one of its best features is that it embodies the character of type that is gradually being formed to meet the conditions of the modern office building. It smacks of what is going to be distinctively an American contribution to architecture. Here surely was incentive for some distinct style of color treatment. What has been used is an arrangement of ivory, green-blue and gold, the combination that the decorator of a theater falls back upon as safe. The green-blue is a very charming tint suggested by the water at Niagara Falls, and is used as an accessory to remind us of the source from which the electric power is derived. Then why not have made it the dominant motive? Evidently this was too adventurous, beyond the depth in which the architect cared to venture. He preferred paddling in shallow water to the daring freedom of the swimmer. It is characteristic of the whole *ensemble*—a timid holding on to conventionalities rather than a bold leap of the imagination—in a word, an opportunity lost.

The director of color was Mr. C. Y. Turner of the National Society of Mural Painters, but I do not think he must be held responsible for the partial failure of the scheme. The story current in Buffalo is that the architects approved of his plans in the gross, but that each one demurred to its application to his particular building. If this was the case, it may be explained by the fact that the Renaissance style had been adopted as a type, and that its accepted conventions restrained them. As an endorsement of this, it is a fact that those buildings in which the embellishment has been carried farthest are the ones in which the architects have handled the type with the greatest freedom.

Towards a solution, therefore, of this problem of structural color the Pan-American Exposition contributes nothing, unless it be by suggestion. The idea of green-blue in connection with the Electric Tower kindles one's imagination. Suppose that the shaft of the tower had been of this green-blue, and that the superstructure, which sits upon it like a crown, had still preserved some of the color but been freely decorated with gold, and that the near-by buildings had been constructed in violet and those more remote in orange, we should have had a scheme distinctive, yet certainly not bizarre, and combining local tints which might be introduced into city architecture without offense. As it is, orange-red shows very effectively on the walls of the colonnade of the Ethnological Building, a structure distinguished by harmony of mass and excellent adjustment of its parts and decorative details; but the definite note of orange is not carried through the structure, which is of a kind of pink buff, agreeable but quite unadventurous.

For it was not a tentative and obviously safe thing that we looked for, but the resolute tackling of some really imaginative scheme or even a bold recourse to examples of constructional color already used abroad.

As it is, the result accomplished does not advance experience a single peg and has not adequately represented what experience might have suggested.

The Life and Works of Rafael Guastavino. Part IV.

THE PRACTICE OF ARCHITECTURE AND COHESIVE CONSTRUCTION IN AMERICA.

(Concluded.)

BY PETER B. WIGHT.

THUS far the illustrations have shown what cohesive construction has accomplished as a factor in the evolution of architectural design, and I think the

FIG. 16. MUNSEY BUILDING, NEW HAVEN, CONN.

promise made in a previous part to demonstrate it has been fulfilled. As Mr. Guastavino is no longer practicing his profession, but conscientiously carrying out

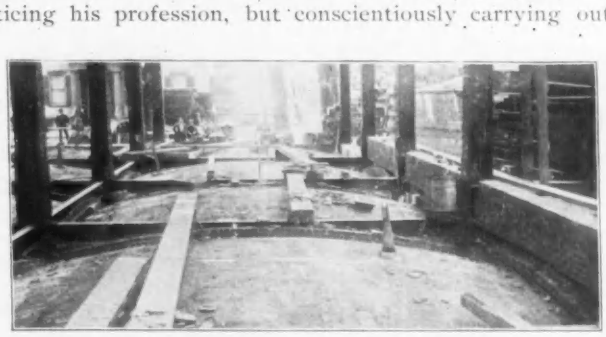


FIG. 17. MUNSEY BUILDING, NEW HAVEN, CONN.

the conceptions of his brother professionals, he is unable longer, except by way of suggestion, to express the longings of his own inspiration in the materials whose

FIG. 18. MUNSEY BUILDING, NEW HAVEN, CONN.

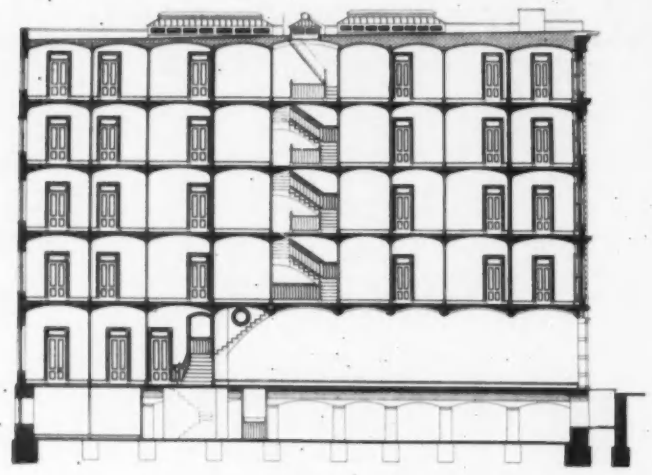


FIG. 19. FIRE-PROOF TENEMENT HOUSE, NEW YORK CITY. LONGITUDINAL SECTION SHOWING TILE ARCH CEILINGS FROM CELLAR TO ROOF.

use he has brought to such great perfection. But what he has done has been given as a legacy to the profession which it cannot too highly prize and by the use of which it can go on developing new constructions and new forms forever.

It has seemed needless heretofore to remind the

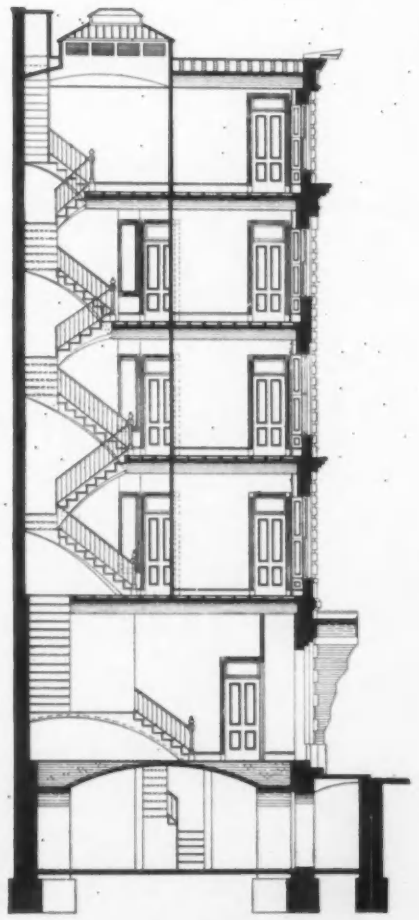


FIG. 20. CROSS SECTION, FIRE-PROOF TENEMENT HOUSE, NEW YORK CITY.

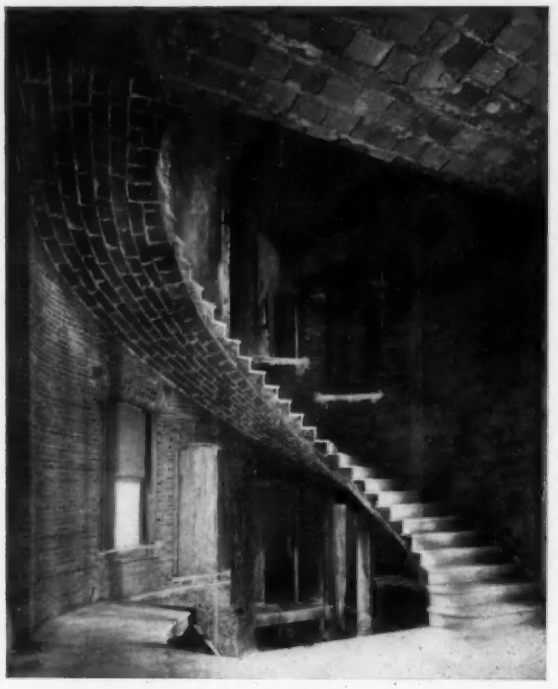


FIG. 21. ELLIPTICAL STAIRWAY, FIRST NATIONAL BANK, PATERSON, N. J.

reader that all the work in cohesive construction herein described is as thoroughly fire-proof as any of the other constructions in burned clay. It is this quality that has been the main inducement for its use. But it differs from others in that it makes many constructive forms possible that were before unknown, and has been, therefore, a potent element in architectural design. Its largest use, however, as may be readily supposed, is where its fire-proof qualities only are sought for. It

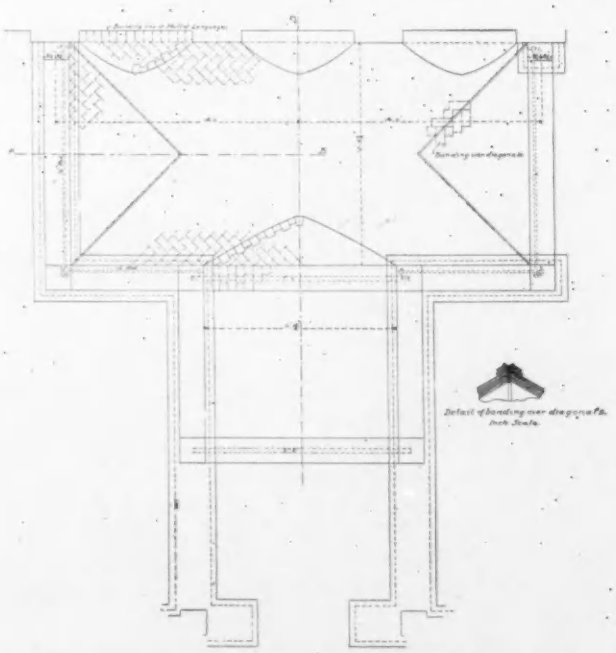


FIG. 24. PLAN OF AMBULATORY, NEW YORK UNIVERSITY.

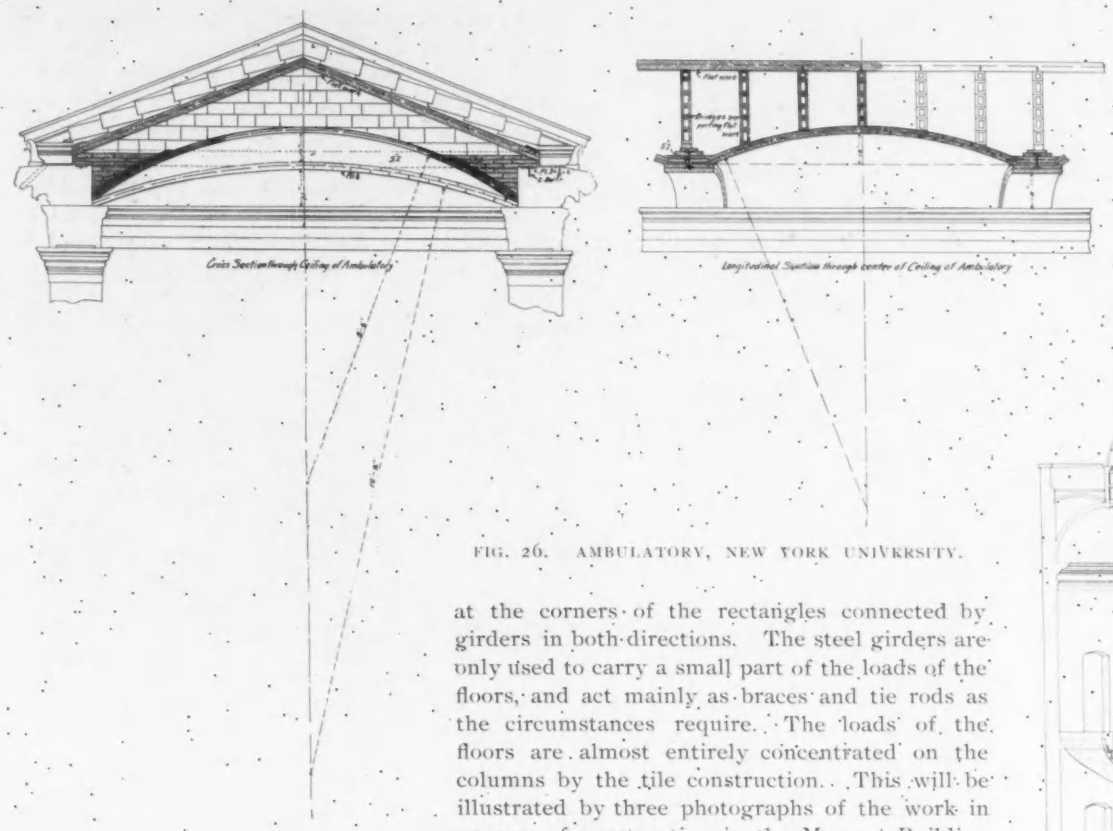
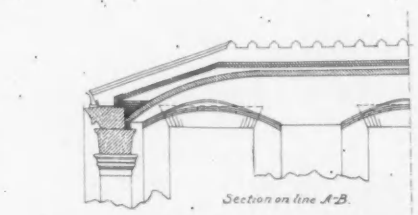


FIG. 26. AMBULATORY, NEW YORK UNIVERSITY.

at the corners of the rectangles connected by girders in both directions. The steel girders are only used to carry a small part of the loads of the floors, and act mainly as braces and tie rods as the circumstances require. The loads of the floors are almost entirely concentrated on the columns by the tile construction. This will be illustrated by three photographs of the work in process of construction in the Munsey Building at New London, Conn. Fig. 16 shows the work commenced. Segmental centerings of wood are set under the girders, and on these are built segmental arches of three courses of flat tiles, much wider than the girders, on which are set three courses of brick covering the sides of the girders. The lower course of tiles is the widest, and each course above sets back enough to receive the bearing of the edges of the courses of tiles forming the domes. The square domes are really square sections of domes intersecting the girder arches, and are built in three or four courses as may be necessary and filled on top with concrete or ballast. As compared with the traditional systems of construction this is a form of masonry in which the pendentives and the dome are united in one. The principle is old, dating from the Greco-Byzantine period, but the application is new and original. Fig. 17 shows the top of the domes ready for the concrete. Fig.



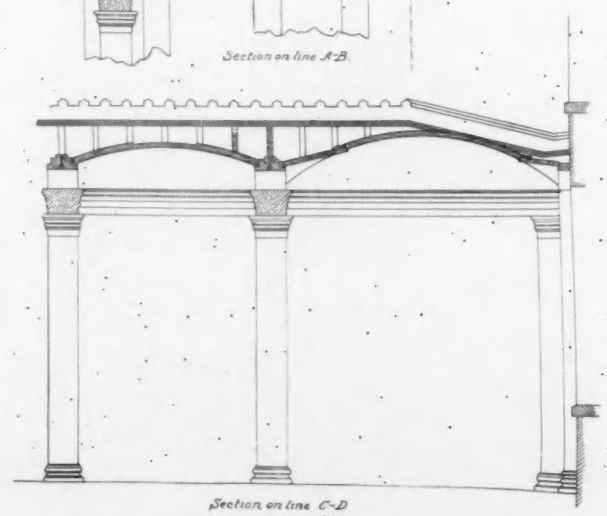


FIG. 25. AMBULATORY, NEW YORK UNIVERSITY.

therefore is important to select one illustration of the system of fire-proof floor construction most urgently recommended by Mr. Guastavino. Supposing a large area of fire-proof floor to be required, the best application of the Guastavino system is where columns and girders only are used — that is, where the floors are divided into squares or rectangles with steel columns

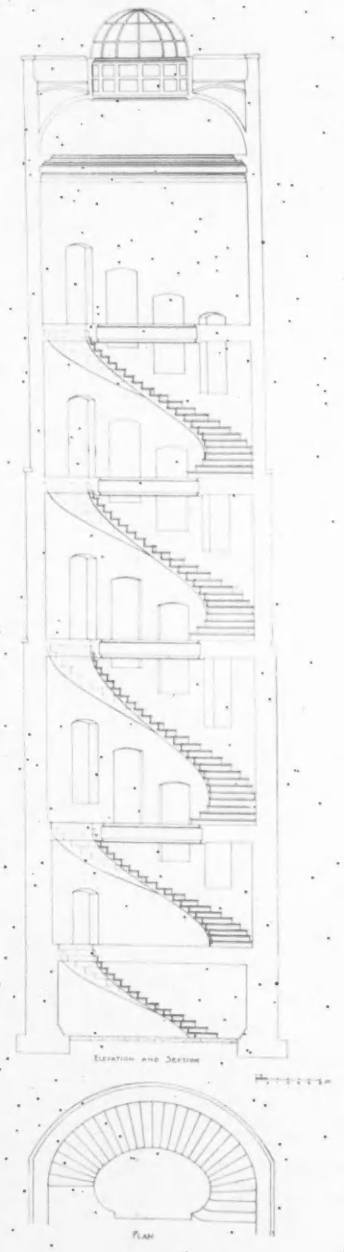


FIG. 22. PLAN AND ELEVATION OF ELLIPTICAL STAIRWAY IN FIRST NATIONAL BANK, PATERSON, N. J.

18 shows the underside when completed. This being in the basement, it will be seen that the arches start from the top of the brick piers which carry the columns. The section of floor carried by each column is 19 by 25 feet, which is also the exact size of each dome. The domes contain no steel whatever. These are guaranteed to carry a safe load (distributed) of three hundred pounds per superficial foot.

The next illustration will show two sections (Figs. 19 and 20) of one of the earliest works of Mr. Guastavino in this country, designed as well as built by him. This is one of two fire-proof tenement houses built in the city of New York in 1883. The first floor was entirely vaulted from the masonry. The upper floors and the roof were built with segment arches between beams spaced so that each arch covered a room. As in the Arion Club, the arches were five inches thick, and the first two courses were laid in plaster of Paris because he had not yet been able to put entire confidence in the Portland cement then obtainable. The stairways of this building were also built of tiles. A good beginning was here made which was well worthy of imitation.

Fig. 21 is a view of part of the elliptical stairway built in the First National Bank at Paterson, N. J. It is shown as left by the tile layers and ready for the decorators. The floors of this building were not of cohesive but of flat hollow tile arch construction.

Fig. 22 shows the plan and vertical section of this stairway, and Fig. 23 will give some idea of the amount of careful study necessary to the successful construction of such work as this.

In conclusion I present part of the working drawings of the ambulatory of the New York University, connected with what is called "The Hall of Fame" (Figs. 24, 25 and 26). The whole of the ceiling and roof are constructed of tiles and cement. The ceiling has very flat vaulting carrying dwarf walls and flat tiles, covered with roof tiles. The ceilings are of enameled tiles throughout. This is one of the latest of the Guastavino constructions.

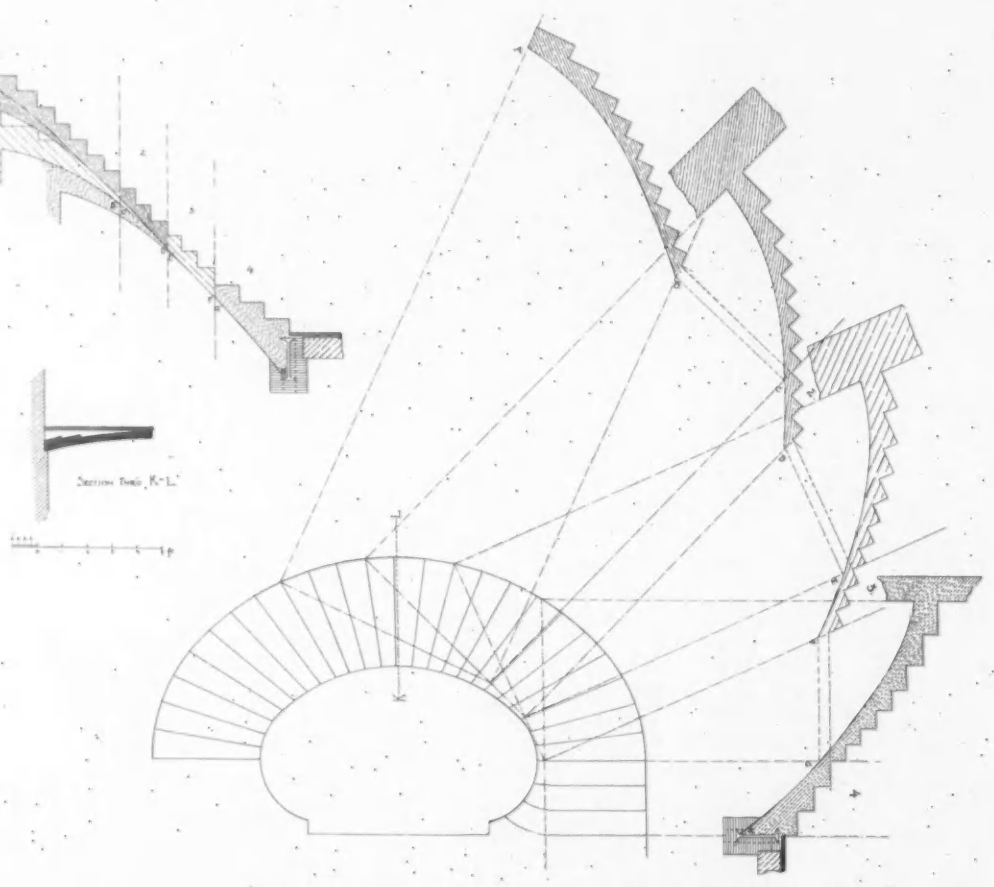


FIG. 23. LAY-OUT OF STAIRWAY IN FIRST NATIONAL BANK, PATERSON, N. J.

These articles would not be complete without allusion to the conscientious work that has been done since 1890 by Mr. R. Guastavino, Jr., who has been such a valuable assistant to his father. I saw him on the first work that was entrusted to his sole charge, the Telephone Building at Denver, and then learned to admire the conscientious way in which the work was done. It is one of those buildings in which he used the minimum of steel, but it would be useless to describe it without diagrams. Since then he has had special charge of nearly all the domes of large span which the Guastavino Company has erected.

[THE END.]

Selected Miscellany.

NOTES FROM NEW YORK.

The prospects of new work are very satisfactory and all the architects are busy.

Before long some of the immense new structures for which foundations have been laid during the summer will begin to rear themselves high into the air and

HOUSE AT NEW BRITAIN, CONN.
Francis W. Crosby, Architect.

assume their place among the massive and beautiful buildings of which New York may be justly proud.

The new Custom House and the Union Club, both by Mr. Cass Gilbert, bid fair to equal anything of their kind in the city and to add greatly to the reputation of this

FIDELLA CLUB BUILDING, MOBILE, ALA.
Charles Pearson, Architect.
Built of brick furnished by the Hydraulic Press Brick Company, St. Louis.

eminent American architect, whose scholarly and beautiful work shows the influence of McKim, Mead & White, being a free and intelligent use of Italian motives, combined with an indefinable feeling of whole-souled truth and liberality which it seems to me approaches very near to our true ideal of an American style. It is not a case of "Progress before Precedent." They should go hand in hand.

Mr. Post's new Stock Exchange is making satisfactory progress, and will be a dignified addition to the Wall Street section.

Mr. R. W. Gibson will soon begin work on the Woman's Hotel on 29th Street near Madison Avenue. It will be eleven stories high and will cost, exclusive of the plant and fixtures, $350,000. The general plan is to have a large number of moderate-sized rooms for the use of business women of limited means, as well as

HOUSE AT HARTFORD, CONN.
Davis & Brooks, Architects.

expensive rooms for those who desire them. It will be a skeleton-frame structure, with the two lower stories devoted to millinery stores, etc., generally controlled by women.

NOTES FROM ST. LOUIS.

Activity in building circles continues, and especially is it noticeable on account of the many substantial residences being built.

THE WINSTON-HARPER-FISHER BUILDING,
MINNEAPOLIS, MINN.
F. B. & L. L. Long, Architects.
Built of "Ironclay" brick made by Columbus Face Brick Company.

Architects J. B. Legg and C. N. Frig are building a Methodist church at Mexico, Mo.

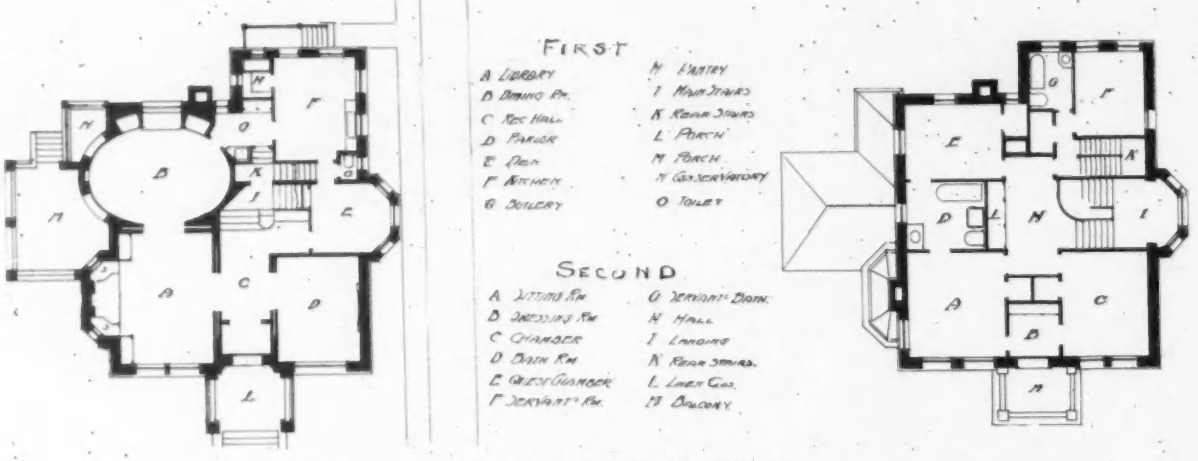
Eames & Young have awarded the contract for constructing the Dolph building on Locust Street. The building will be of dark brick with terra-cotta trimmings, fire-proof, six stories, and will cost $100,000.

The same architects, associated with Will Levy, are preparing plans for an eight-story wholesale building, to face 213 feet on Washington Avenue and 150 feet on Twelfth Street. The building will be one of the largest of the kind in the city, having 275,000 square feet of floor space, and will be occupied by a dry goods company. The cost will be $400,000.

An interesting five-story building in the Italian Renaissance style is being put up on the corner of Fourth and Locust streets by Barnett, Haynes & Barnett.

Architects Mauran, Russell & Garden are having considerable success in designing library buildings, they having been chosen as the architects for the new library at Decatur, Ill.

HOUSE AT CINCINNATI, OHIO.
E. M. Spinning, Architect. Roofed with American S. Tile.



FLOOR PLANS, TRUE HOUSE, CHICAGO.

A notable event in building circles has been the transfer, by ninety-nine-year lease, of the Turner building to the Chemical building owners. The Turner building was one of the pioneer fire-proof office buildings in the city. It is eight stories high and has one of the most interesting façades, being Gothic, after designs by Peabody & Stearns. Notwithstanding its being a comparatively modern building, it is to be sacrificed to modern progress and will be replaced by a sixteen-story addition to the Chemical building at a cost of $175,000. Henry Ives Cobb, who is a stockholder in the Chemical building company and who designed the original building, will very likely be chosen as the architect.

ORPHEUM THEATRE, BROOKLYN, N. Y.
Frank Freeman, Architect.
Architectural terra-cotta made by B. Kreischer & Sons.

Considerable progress has been made in World's Fair matters, the general scope of the work having been decided upon and the more important buildings assigned as follows:

Agricultural Building, Isaac S. Taylor, St. Louis; Liberal Arts Building, Carrère & Hastings, New York; Mines and Metallurgy, Van Brunt & Howe, Kansas City, Mo.; Transportation Building, Widman, Walsh & Boisselier, St. Louis; Art Building, Cass Gilbert, New York; Social Economy Building, Barnett, Haynes & Barnett, St. Louis; Educational Building, Theodore C. Link, St. Louis; Manufacturers' Building, Eames & Young, St. Louis; Electricity Building, Walker & Kimball, Omaha; Service Building, Isaac S. Taylor; and the Government Building, James K. Taylor, supervising architect. Since the above allotment the commission has

DINING-ROOM.

LIVING-ROOM.

HOUSE AT CHICAGO, ILL., FOR JOHN R. TRUE, ESQ.
Huehl & Schmid, Architects.

CAPITAL BY PEABODY & STEARNS, ARCHITECTS.
Conkling-Armstrong Terra Cotta Company, Makers.

decided to put up two additional buildings for Manufacturers and Liberal Arts.

It is expected that the contracts for the above buildings will be awarded before the first of January. The different buildings are all larger than those of the Columbian Exposition. The Italian Renaissance has been selected as the style of architecture, and the main cornice line is to be uniformly 65 feet high.

Mr. E. L. Masqueray of New York has been selected by director of works Taylor as the chief designer.

The St. Louis Chapter of the A. I. A. held its annual meeting and dinner at the Mercantile Club, Monday

DETAIL FOR BANK OF COMMERCE, TORONTO, ONT.
Darling & Pearson, Architects.
Perth Amboy Terra Cotta Company, Makers.

evening, September 22, and elected Mr. W. S. Eames president, W. B. Ittner vice-president, J. L. Mauran secretary, and F. C. Bonsack treasurer; these officers, in connection with Mr. James P. Jameson, forming the board of directors.

NOTES FROM PITTSBURG.

The report of the Department of Public Works so far this year indicates that this will be the best year that Pittsburg has known in building operations. It is practically impossible to get men enough to carry new work along properly, and recently when the bricklayers on one of the new office buildings struck for sixty cents an hour, their demand was granted at once, though union rates, fixed this spring, were but fifty cents.

The board of trustees of the Carnegie Institute have at last been notified that the city is ready to turn over to them the ground required for the extension of the present building, and work will probably soon commence on this. The trustees are also at work on the preliminary arrangements for the technical institute which Mr. Carnegie is to build here. Experts from many schools and colleges throughout the country have been here aiding them in this work.

DETAIL "FLATIRON" BUILDING, NEW YORK CITY.
D. H. Burnham & Co., Architects.
Atlantic Terra Cotta Company, Makers.

In the public waiting-room of the new Union Station glazed colored terra-cotta has been used very successfully.

Mr. Carnegie is to present to the city of Allegheny a statue of a former prominent citizen, Colonel Anderson. Colonel Anderson befriended Mr. Carnegie when a boy, lending him books and aiding him in many ways. Daniel Chester French is the

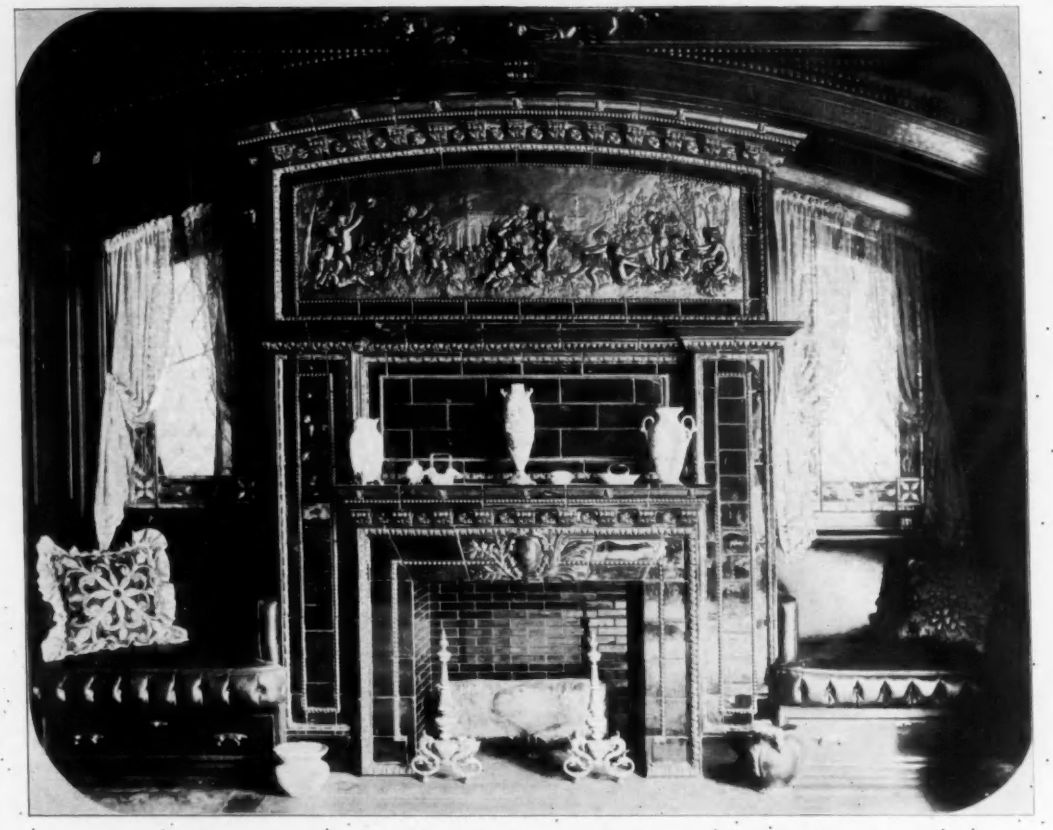
TERRA-COTTA PANEL MADE BY THE NEW JERSEY TERRA COTTA COMPANY.

sculptor, Brite & Bacon of New York the architects.

Alden & Harlow are preparing plans for a twenty-three-story office building for the Farmers' Deposit National Bank, to be built on the corner of Fifth Avenue and Wood Street.

A MANTEL IN FAIENCE.

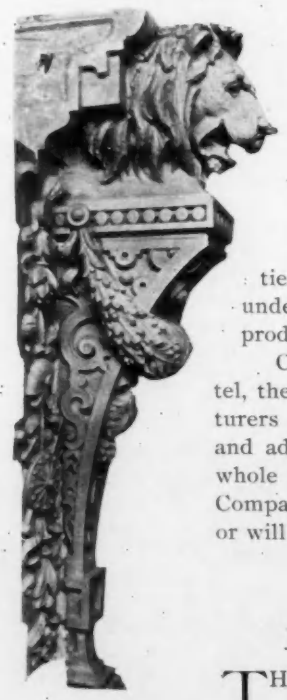
THE unusually handsome mantel which is illustrated on this page is the work of the Hartford Faience Company, Hartford, Conn. The illustration does not adequately convey the variety of rich colors employed in the design, but enough is shown perhaps to indicate the rich effects which may be obtained by the use of a material which lends itself so readily to graceful ornamentation and beautiful color decoration.



FAIENCE MANTEL IN RESIDENCE AT MILWAUKEE, WIS.
E. R. Liebert, Architect.
Made by the Hartford Faience Company.

Faience, which has always been used extensively in Europe, is rapidly finding recognition in this country, and we look to see a greater use of it when the possibilities of the material are more fully understood and the quality of our product better appreciated.

Concerning this particular mantel, the architect writing the manufacturers says it is thoroughly well done and adds much to the charm of the whole work. The Hartford Faience Company carry a fine line of mantels or will execute from special designs.



DETAIL BY
HENRY SCHUYLER,
ARCHITECT.
Excelsior Terra Cotta Company, Makers.

HOUSE FOR JOHN R. TRUE, ESQ.

THIS beautiful house illustrated in our plate form is built of a semi-glazed, cream-white terra-cotta from foundation up. As an architectural creation it has additional interest from the fact that Mr. True is president of the Northwestern Terra Cotta Company, which furnishes the material, by the use of which he has demonstrated his absolute confidence in this form of burnt clay to withstand successfully not only the ordinary ravages of time, but the defacement of accumulated soot, which is so common in many of our larger manufacturing cities.

The roof is covered with a light green semi-glazed tile, made by the Ludowici Roofing Tile Company.

BLOCK OF RESIDENCES, RIVERSIDE DRIVE, NEW YORK.
Janes & Leo, Architects.
Terra-cotta by the New York Architectural Terra Cotta Company.

SCHOOL AND UNIVERSITY PUBLICATIONS.

We have received from the following institutions publications which contain interesting descriptive matter relating to the different branches of art and scientific study which they severally maintain:

Laurence Scientific School, Cambridge, Mass.

The Art Institute of Chicago.

Architectural Department, University of Pennsylvania.

Copies will be furnished upon application to those who are interested.

NEW TRADE PUBLICATIONS.

A new chapter regarding the Herculean Fireproof Floor Arch is contained in a pamphlet just issued by Henry Maurer & Son. This new pamphlet is made

CAPITAL BY CHARLES A. RICH, ARCHITECT.
White Brick and Terra Cotta Company, Makers.

especially interesting because of the illustrations it contains of work which has been executed. Henry Maurer & Son, 420 East 23rd Street, New York City.

From the new catalogue issued by Gladding, McBean & Co., San Francisco, Cal., we are led to believe that the burnt clay interests are well looked after on the Pacific slope. In this book are illustrated many of the best type and most prominent buildings which have been erected in the far western states, in which the company's product — brick and terra-cotta — has been used.

SUNDRY ITEMS.

Architects Dennison and Miller of Warren, Ohio, have removed their offices to Youngstown, Ohio.

The opening smoker of the Washington Architectural Club was held in the club room on Saturday evening, October 12. Competition — sketches and photographs made during the past summer were exhibited.

TERRA-COTTA PANEL, FIRE STATION, YONKERS, N. Y.
Standard Terra Cotta Works, Makers.
E. A. Quick & Sons, Architects.

Mr. Walter M. Evatt has been appointed New England manager for the National Fire-proofing Company, with offices in the Tremont Building, Boston.

Charles Bacon, Boston agent for the Celadon Roofing Tile Company, reports the following new contracts: Library, Derby, Conn., Hartly Dennett, architect; residence, Newton Centre, Mass., Coolidge & Carson, architects; residence, Weston, Mass., J. E. Chandler, architect.

B. Kreischer & Sons, New York City, report the following new contracts in Greater New York: Office building, Liberty and Cedar streets, John T. Williams, Jr., architect; light gray speckled front brick and buff light court brick. Telephone stations, 220 to 224 West 124th Street and 123 to 127 East 124th Street, C. W. L. Eidlitz,

CAPITAL BY MESSER & SMITH, ARCHITECTS.
St. Louis Terra Cotta Company, Makers.

architect; light court buff brick. Tontine building, Wall and Water streets, George A. Fuller Company, contractors; light gray front brick. Twenty apartment houses, Kent & Willoughby avenues, Brooklyn; buff and gray brick and gray rock-faced brick.

"School Architecture."

A General Treatise on Designing and Planning of Schoolhouses.

BY EDMUND M. WHEELWRIGHT.

More than 250 Illustrations of Schoolhouses and Plans; many of the best types of all grades having been chosen.

An indispensable Text-book for Schoolhouse Designers.

Price, $5.00, delivered.

ROGERS & MANSON, *Publishers*,
Boston, Mass.

Mali

HOUSE AT TUXEDO PARK, N. Y.

JAMES BROWN LORD, ARCHITECT.

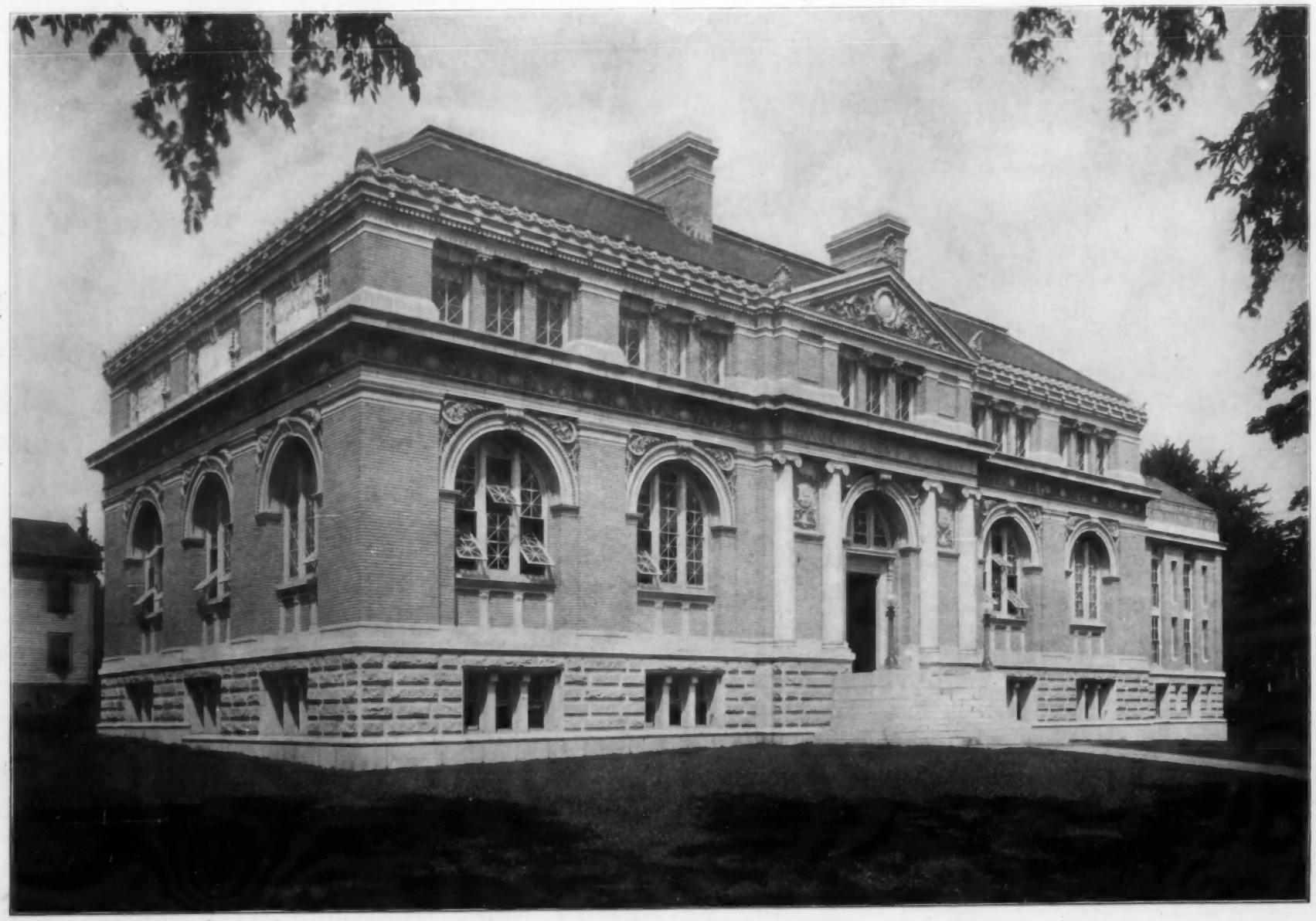
ПЬИ

HOUSE AT TUXEDO PARK, N. Y.

JAMES BROWN LORD, ARCHITECT.

HOUSE AT CHICAGO, ILL., FOR JOHN R. TRUE ESQ.

HUEHL & SCHMID, ARCHITECTS.



LIBRARY FOR THE NEW BRITAIN INSTITUTE, NEW BRITAIN, CONN.

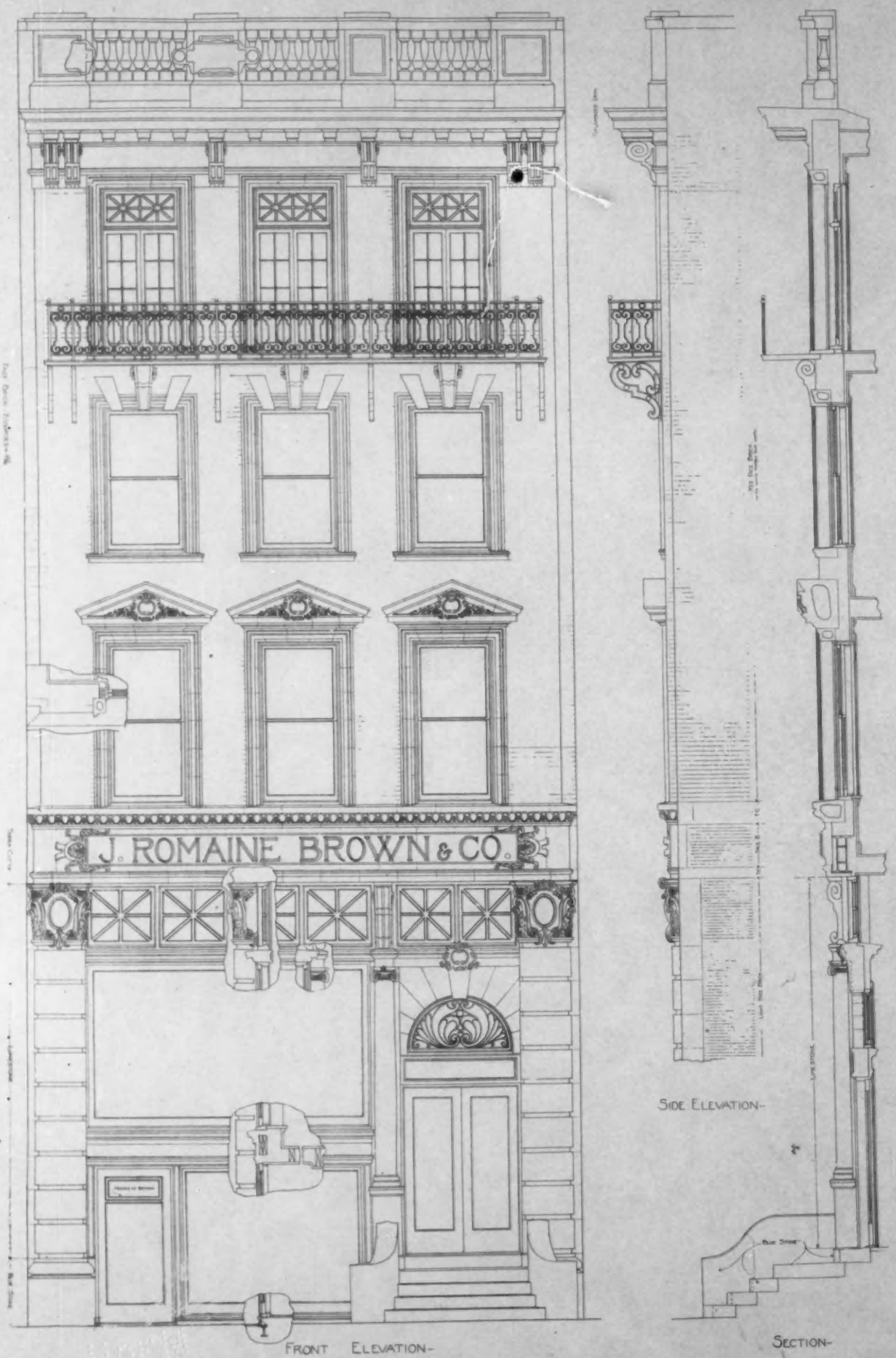
DAVIS & BROOKS, ARCHITECTS.

NOW

HOUSE AT CHICAGO, ILL., FOR JOHN R. TRUE ESQ.

HUEHL & SCHMID, ARCHITECTS.

HOUSES AT 16, 18 AND 20 EAST 84TH STREET, NEW YORK CITY.
CLINTON & RUSSELL, ARCHITECTS.



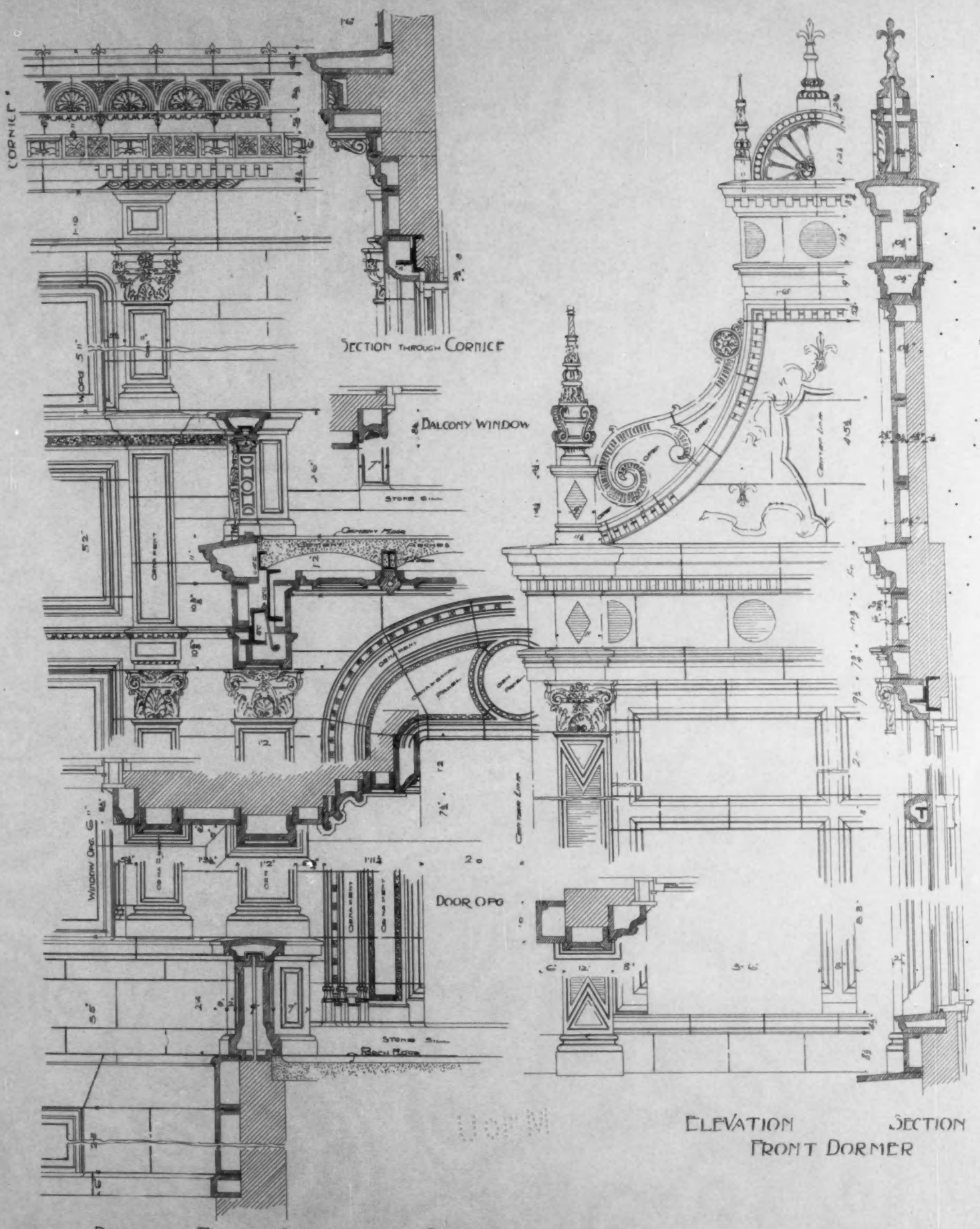
FRONT ELEVATION-

SIDE ELEVATION-

SECTION-

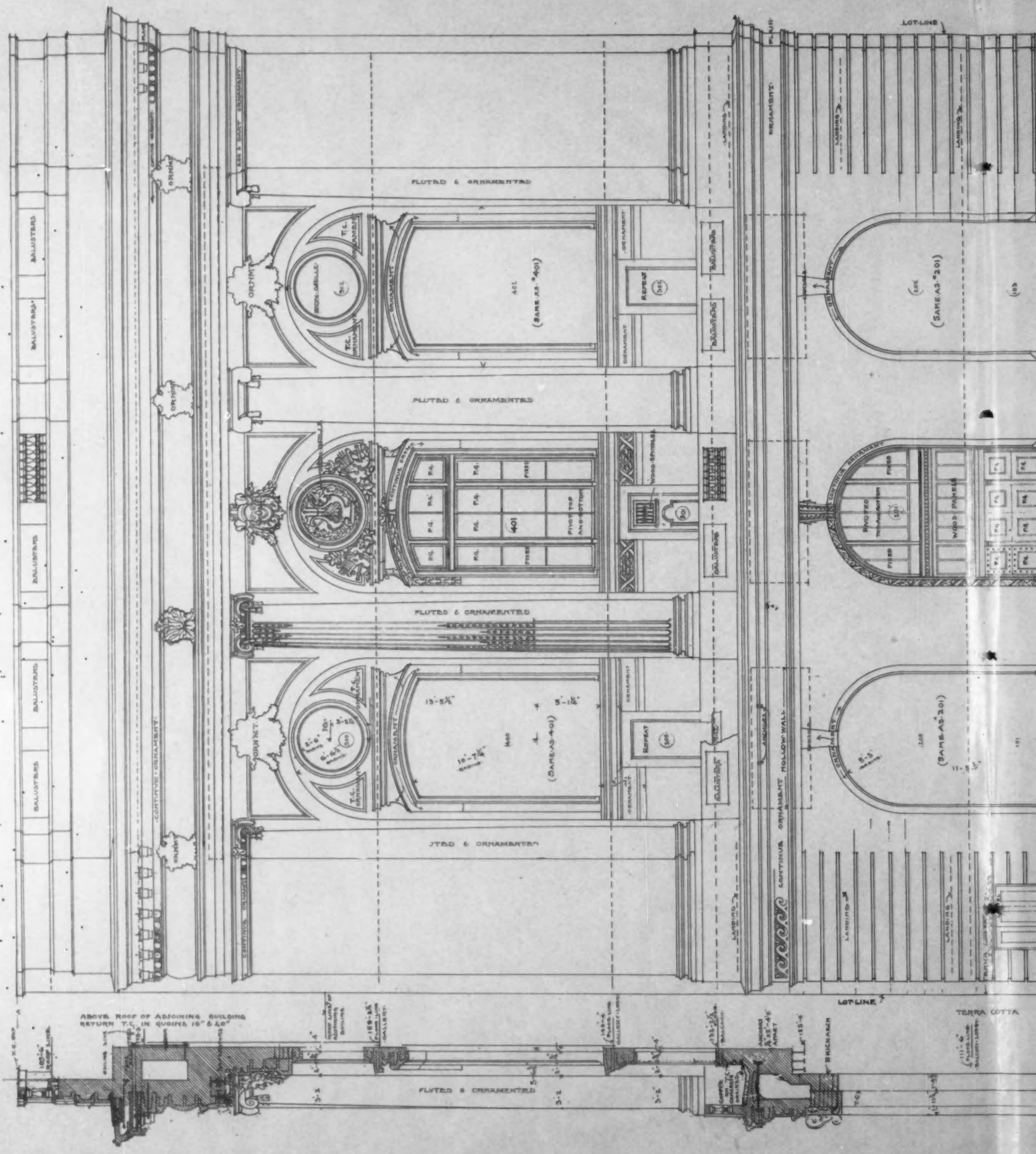
ELEVATION OF PREMISES, WEST 33RD STREET, NEW YORK CITY.

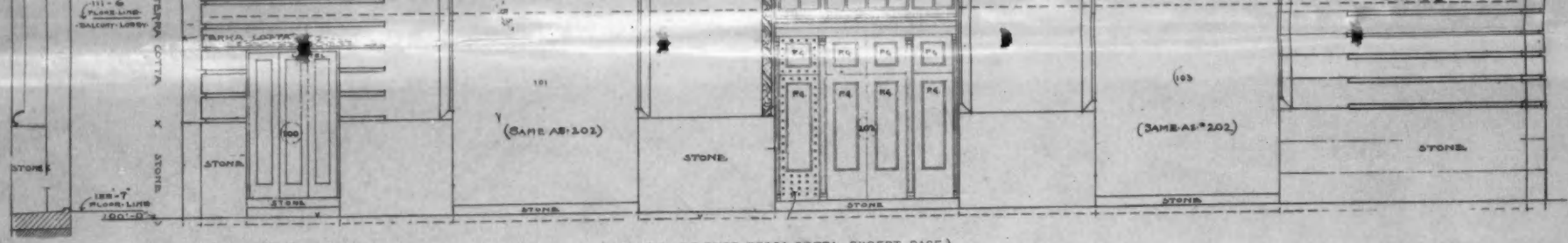
ALFRED H. TAYLOR, ARCHITECT.

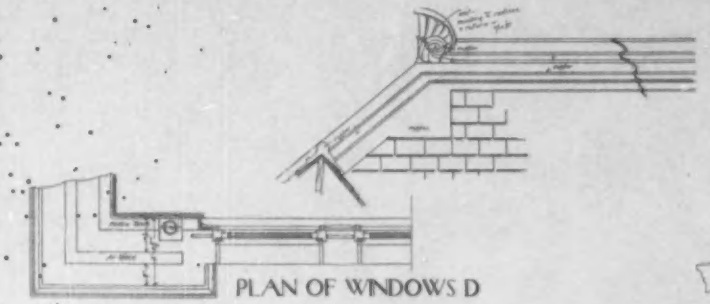


DETAILS OF HOUSE AT CHICAGO, ILL., FOR JOHN R. TRUE, ESQ.

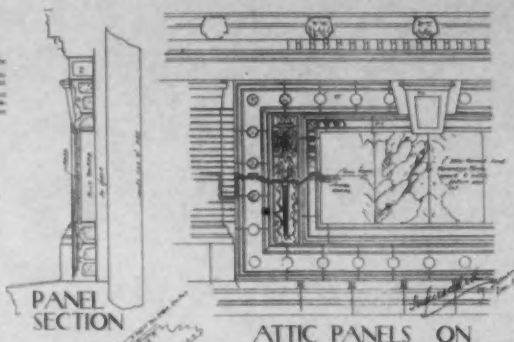
HUEHL & SCHMID, ARCHITECTS.


FLUTED & ORNAMENTED
BALUSTERS
ORNAMENT
(SAME AS 401)
REPEAT
PIVOT TOP AND BOTTOM
LOT LINE
LANDING
CONTINUE ORNAMENT
HOLLOW WALL
(SAME AS 201)
ABOVE ROOF OF ADJOINING BUILDING
RETURN T.C. IN QUOINS 16" & 40"
TERRA COTTA


STONE
TERRA COTTA
STONE
STONE
STONE

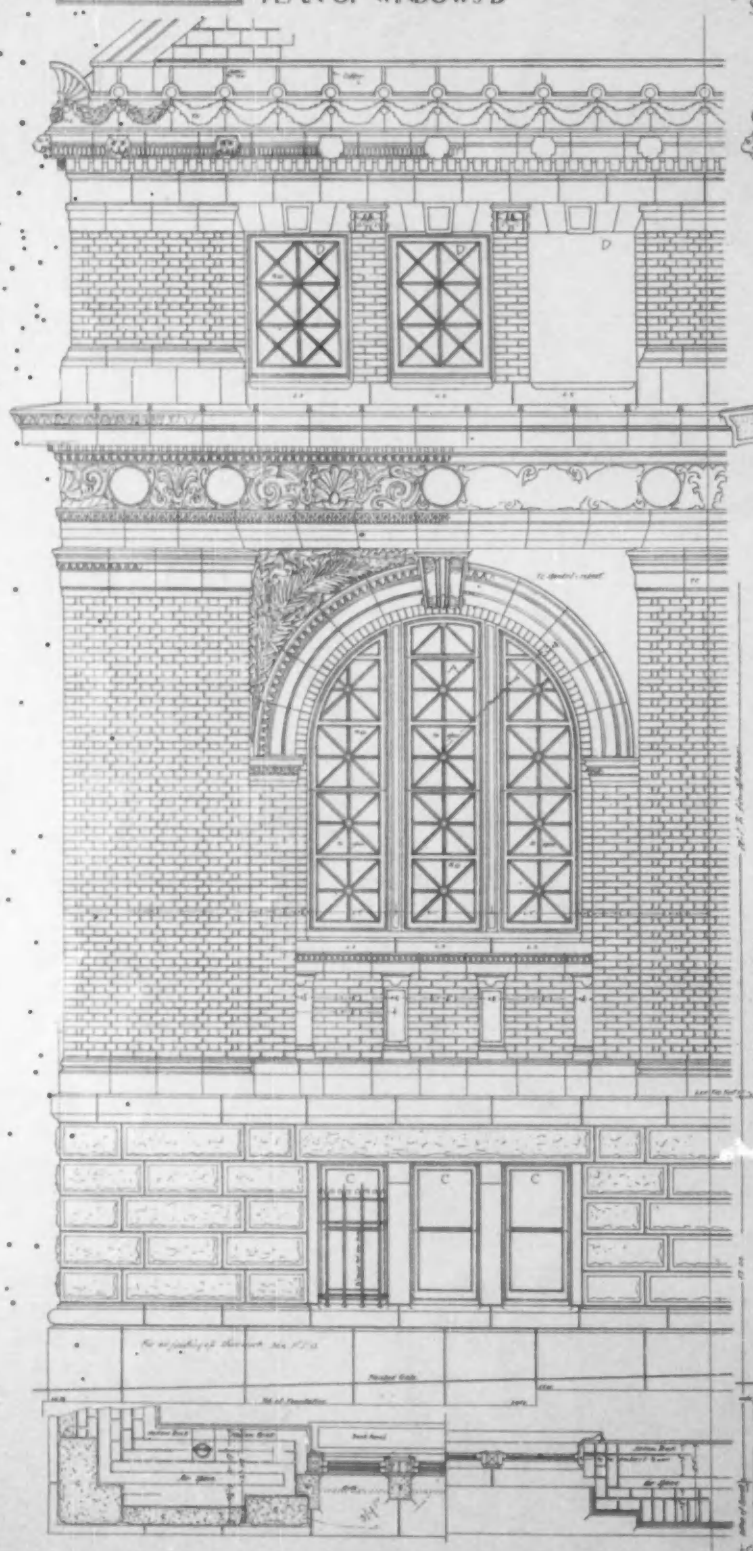


PLAN OF WINDOWS D

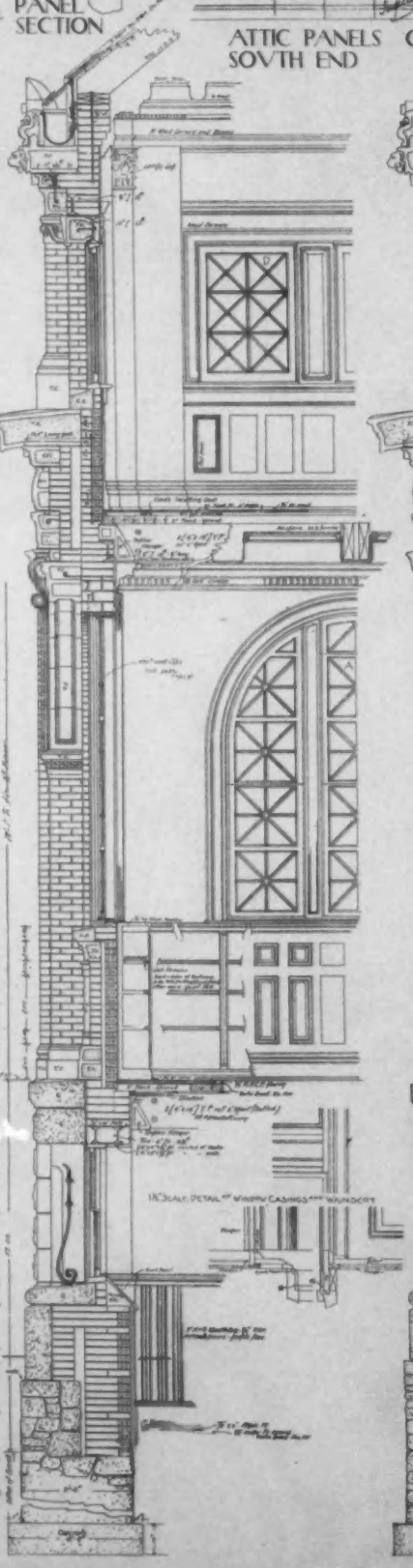


PANEL SECTION

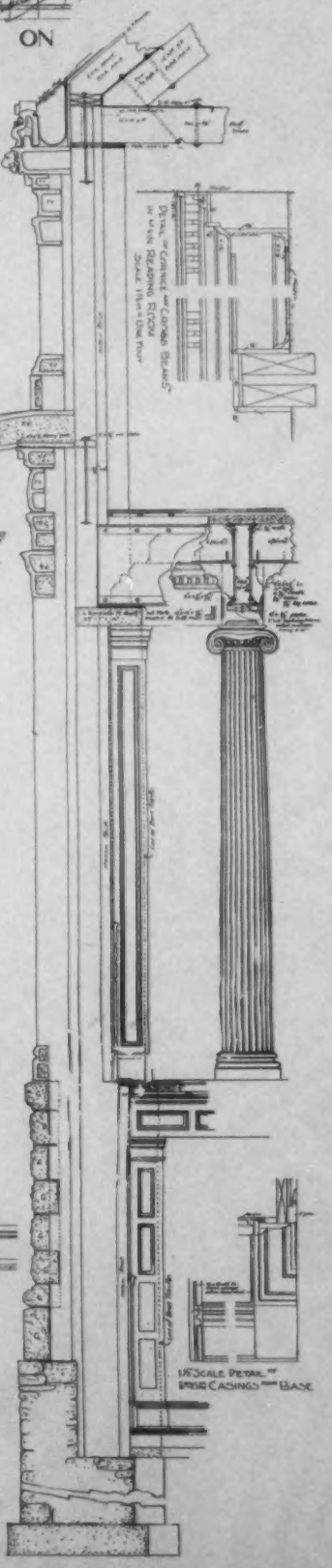
ATTIC PANELS ON SOUTH END



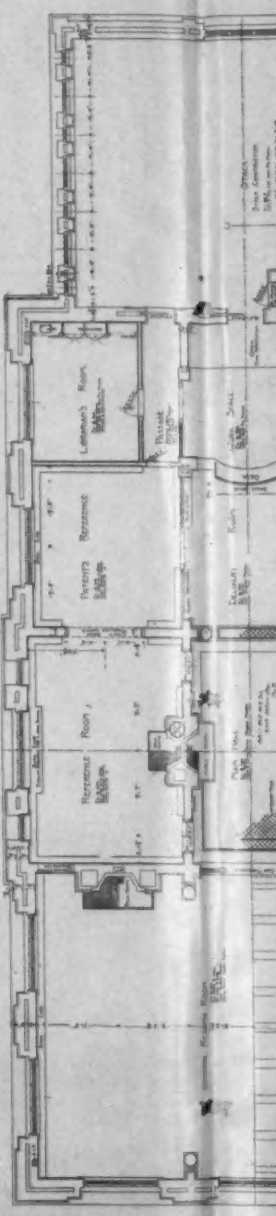
DETAIL OF CORNER BAY.



WINDOW SECTION EAST FRONT.

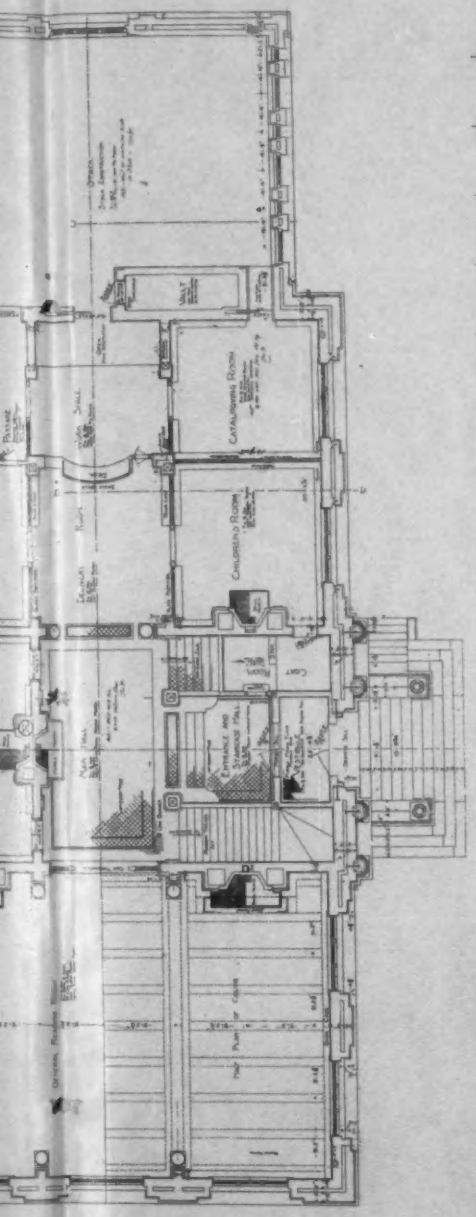


PIER SECTION SOUTH ELEVATION.

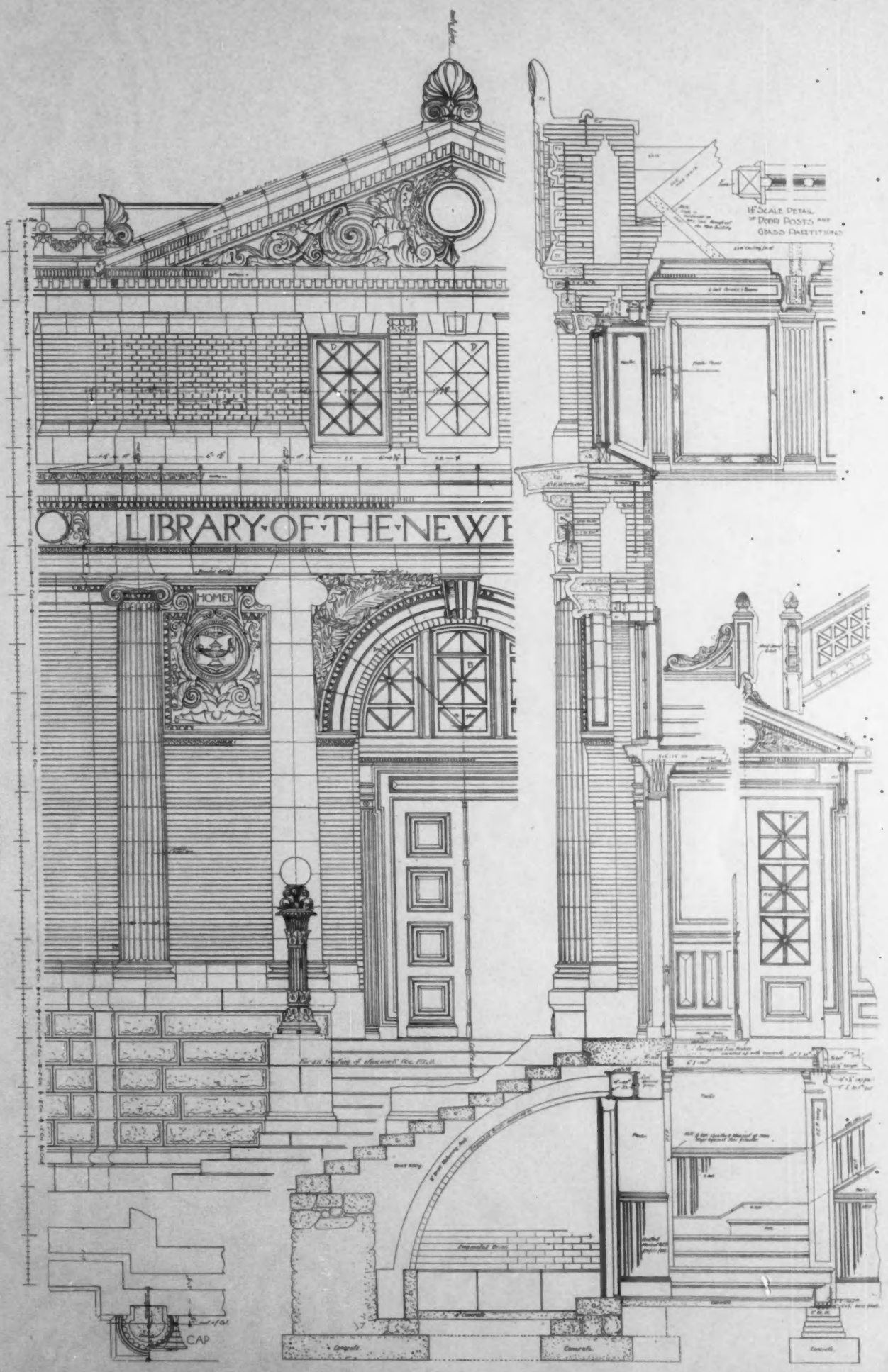


LIBRARY FOR THE NEW BRITAIN INSTI

DAVIS & BROOKS, ARCHIT



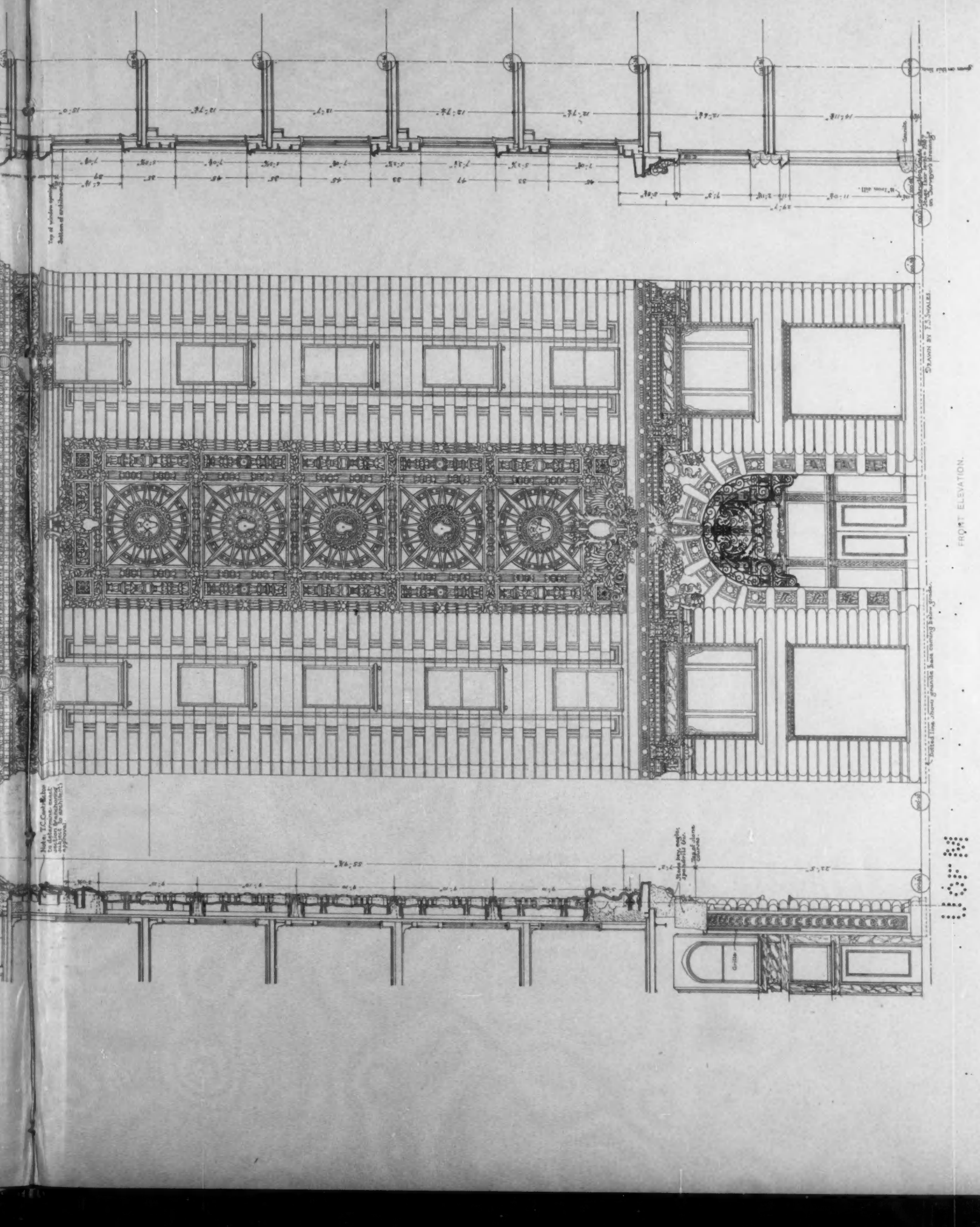
PLAN.



DETAIL OF ELEVATION AND SECTION OF ENTRANCE PAVILION.

TAIN INSTITUTE, NEW BRITAIN, CONN.
BROOKS, ARCHITECTS.

PLATES 76 and 77.



ELKS' BUILDING, DETROIT, MICH.

JAMES M. WOOD, ARCHITECT.

FRONT ELEVATION.